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e-CODE

Windows 10 & MS Office 2016

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Computational Thinking

Cyber Ethics

Artificial Inteligence

Data Science

Coding

Board Games

Teacher Manual

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1. INTRODUCTION TO CLOUD COMPUTING

Brain Tuner

A. 1. (b) 2. (c) 3. (d) 4. (d)

B. 1. 2. Cloud 3. Cloud computing 4. Metering 5. Private

C. 1. (F) 2. (T) 3. (T) 4. (T) 5. (T)

D. 1. Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (for example, networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

2. **Shared Infrastructure:** Uses a virtualized software model, enabling the sharing of physical services, storage, and networking capabilities. The cloud infrastructure, regardless of deployment model, seeks to make the most of the available infrastructure across a number of users.
Dynamic Provisioning: Allows for the provision of services based on current demand requirements. This is done automatically using software automation, enabling the expansion and contraction of service capability, as needed. This dynamic scaling needs to be done while maintaining high levels of reliability and security.
Network Access: Needs to be accessed across the internet from a broad range of devices such as PCs, laptops, and mobile devices, using standards-based APIs (for example, ones based on HTTP). Deployments of services in the cloud include everything from using business applications to the latest application on the newest smartphones.
Managed Metering: Uses metering for managing and optimizing the service and to provide reporting and billing information. In this way, consumers are billed for services according to how much they have actually used during the billing period.

3. **Advantages of Cloud Computing**
Strategic edge: Cloud computing offers a competitive edge over your competitors. It helps you to access the latest and applications any time without spending your time and money on installations.
High Speed: Cloud computing allows you to deploy your service quickly in fewer clicks. This faster deployment allows you to get the resources required for your system within fewer minutes.
Reliability: Reliability is one of the biggest pluses of cloud computing. You can always get instantly updated about the changes.

Disadvantages of Cloud Computing

Technical Issues: Cloud technology is always prone to an outage and other technical issues. Even, the best cloud service provider companies may face this type of trouble despite maintaining high standards of maintenance.

Internet Connectivity: Good Internet connectivity is a must in cloud computing. You can't access cloud without an internet connection. Moreover, you don't have any other way to gather data from the cloud.

Lower Bandwidth: Many cloud storage service providers limit bandwidth usage of their users. So, in case if your organization surpasses the given allowance, the additional charges could be significantly costly

4. The five applications of Cloud Computing are:

Business Process: Many business management applications like customer relationship management (CRM) and enterprise resource planning (ERP) are also based on a cloud service provider. Software as a Service (SAAS) has become a popular method for deploying enterprise level software.

Salesforce, Hubspot, Marketo etc. are popular examples of this model. This method is cost-effective and efficient for both the service provider and customers. It ensures hassle free management, maintenance and security of your organization's critical business resources and allows you to access these applications conveniently via a web browser.

Backup and recovery: When you choose cloud for data storage the responsibility of your information also lies with your service provider. This saves you from the capital outlay for building infrastructure and maintenance. Your cloud service provider is responsible for securing data and meeting legal and compliance requirements. The cloud also provides more flexibility in the sense that you can enjoy large storage and on-demand backups. Recovery is also performed faster in the cloud because the data is stored over a network of physical servers rather than at one on-site data centre. Dropbox, Google Drive and Amazon S3 are popular examples of cloud backup solutions.

Application development: Whether you are developing an application for web or mobile or even games, cloud platforms prove to be a reliable solution. Using cloud, you can easily create scalable cross-platform experiences for your users. These platforms include many pre-coded tools and libraries — like directory services, search and security. This can speed up and simplify the

development process. Amazon Lumberyard is a popular mobile game development tool used in the cloud.

Test and development: The cloud can provide an environment to cut expenses and launch your apps in the market faster. Rather than setting up physical environments developers can use the cloud to set up and dismantle test and development environments. This saves the technical team from securing budgets and spending critical project time and resources. These dev-test environments can also be scaled up or down based on requirements. LoadStorm and BlazeMeter are popular testing tools.

Big data analytics: Cloud computing enables data scientists to tap into any organizational data to analyze it for patterns and insights, find correlations make predictions, forecast future crisis and help in data backed decision making. Cloud services make mining massive amounts of data possible by providing higher processing power and sophisticated tools. There are many open source big data tools that are based on the cloud for instance Hadoop, Cassandra, HPCC etc.

5. Public cloud is built over the Internet and can be accessed by any user who has paid for the service.

   Public clouds are owned by service providers and are accessible through a subscription. Many public clouds are available, including Google App Engine (GAE), Amazon Web Services (AWS), Microsoft Azure, IBM Blue Cloud, and Salesforce.com's Force.com. A public cloud delivers a selected set of business processes.

   Hosting all your computing infrastructure yourself and is not shared. The security and control level is highest while using a private network. A private cloud is built within the domain of an intranet owned by a single organization. Therefore, it is client owned and managed, and its access is limited to the owning clients and their partners.

   Private clouds give local users a flexible and agile private infrastructure to run service workloads within their administrative domains. A private cloud is supposed to deliver more efficient and convenient cloud services. It may impact the cloud standardization, while retaining greater customization and organizational control.

   Hybrid Cloud: A hybrid cloud is built with both public and private clouds, as shown at the lower-left corner of Figure 4. Private clouds can also support a hybrid cloud model by supplementing local infrastructure with computing capacity from an external public cloud. A hybrid cloud provides access to clients, the partner network, and third parties. We can say that public clouds promote

standardization, preserve capital investment, and offer application flexibility. Private clouds attempt to achieve customization and offer higher efficiency, resiliency, security, and privacy.

6. Consumers purchase the ability to access and use an application or service that is hosted in the cloud. A benchmark example of this is Salesforce.com, as discussed previously, where necessary information for the interaction between the consumer and the service is hosted as part of the service in the cloud.
   Platform as a Service (PaaS) Consumers purchase access to the platforms, enabling them to deploy their own software and applications in the cloud. The operating systems and network access are not managed by the consumer, and there might be constraints as to which applications can be deployed. Examples include Amazon Web Services (AWS), Rackspace and Microsoft Azure.
   Infrastructure as a Service (IaaS) Consumers control and manage the systems in terms of the operating systems, applications, storage, and network connectivity, but do not themselves control the cloud infrastructure.
   Also known are the various subsets of these models that may be related to a particular industry or market. Communications as a Service (CaaS) is one such subset model used to describe hosted IP telephony services. Along with the move to CaaS is a shift to more IP-centric communications and more SIP trunking deployments. With IP and SIP in place, it can be as easy to have the PBX in the cloud as it is to have it on the premise. In this context, CaaS could be seen as a subset of SaaS.

E. Google Classroom.

2. INTRODUCTION TO MS-ACCESS 2016

Brain Tuner

A. 1. (b) 2. (?) 3. (a) 4. (b) 5. (a)

B. 1. relational 2. records, fields 3. Record 4. sort 5. tables

C. 1. (T) 2. (T) 3. (F) 4. (T) 5. (T)

D. 1. Microsoft access enables business and enterprise users to manage data and analyze vart amounts of information efficiently. The program provides a blend of database functionality and programing capabilities for creating easy-to-navigate forms.
   The functions and services of MS Access Database.
   1. Active (×) Create object function.

2. Application Command function. Shell function.
3. Arrays- Arrays function, Filter functions.
4. Conversion- Asc function, Ch function.
5. Database- DDE function.
6. Date/Time- Date functions.
7. Domain Aggregate. DAVg functions

2. The six Database Objects are:
   Tables, Queries, forms, Reports, Macros, and Modules.

3. There are two types of Database views:
   Dynamic views and static views:
   Dynamic views can contain data from one or two tables and automatically include all of the columns from the specified table. Static view can contain data from multiple tables and the required columns from these tables must be specified in the SELECT and WHERE clauses of the static view.

4. Sorting Data - To sort the list of data in a sheet.

   Step (i) Click the drop-down menu in the Salary column to open the display menu of sorting and filtering options.

   Step (ii) Select the Sort Smallest to Largest option in the drop down menu.

   Step (iii) The upward pointing arrow at right of the salary field indicates that the table is sorted in ascending order in this field.

   Step (iv) To undo the sorting, go to Home Tab. In the Sort and Filter group, select Remove sorting.

   Filtering Data - To filter the data, follow these steps:

   Step (i) Click the column on which you want to apply filter, click the drop down arrow of that column (eg. here EmpName) and clear by clicking the Select All option.

   Step (ii) Now select the particular name for which you want to see the database entries.(Austin in our example)

   Step (iii) Access 2016 will now display records of that particular name only.

   Step (iv) To remove the filter, go to the sort and filter group, click the Toggle Filter button in that. Now the datasheet will go back to the initial state.

5. The first step to creating a database is to, well, create the database! We will create a blank database first. Creating a database in Microsoft Access is as easy as creating a Word document! This lesson demonstrates how to create a database in MS Access.

Step (i) You may notice that, when you first start Microsoft Access 2016, you see the above start screen. In this case, you can simply select Blank desktop database.
If you already have Access open, you can go to the File menu:

Step (ii) Choose a name and click Create. Let's call it ClassEighth. You can either use the default location or click the folder icon to change the location:

E. 1. Create a database in Access.

(i) Open Access. If Access is already open, select File>New
(ii) Select Blanck database or select a template.
(iii) Enter a name of a database, select a location and then select create.

2. Open Access. If Access is already open, select, File> New. Select Blanck database, or select a template. Enter a name for the database, select a location and then select create.

3. ADVANCED FEATURES OF MS-ACCESS 2016

Brain Tuner

A. 1. (c) 2. (b) 3. (c) 4. (b)

B. 1. Form 2. Fields, Records 3. Query Wizard, Query Design
4. fourth 5. Webpage

C. 1. (T) 2. (F) 3. (T) 4. (T) 5. (F)

D. 1. Query refers to the action of instructing the database to return some (or all) of the data in your database. Ex- Query wizard and Query Design. Form in Access is a database object that you can use to create a user interface for a database application.
Report consists of information that is pulled from tables or queries, as well as information that is stored with the report design, such as labels, headings, and graphics.
1. Using the Form Command 2. Using Split Form
3. Using the Form Wizard

2. To create a table in design view, let's open the same database Students.
Step (i) Click Create tab.
Step (ii) Click Table Design in the Tables Group.
Step (iii) The following screen appears as shown in the figure 2. The important parts of the Design View window panes are:

A. Field Definition Grid
i. Field Selector ii. Field Name iii. Data Type iv. Description
B. Field Properties pane

3. Lookup wizard establish a relationship between tables. To create a form by using the form wizard.
   1. On the create tab, in the forms group. Click form wizard.
   2. Follow the directions on the pages of the form wizard.
   3. On the last page of wizard, Click finish.
4. There are three ways in which a form can be created:
   Using the Form Command Using Split Form
   Using the Form Wizard
5. To use the Report Wizard following steps need to be followed:
   Step (i) Go to Create Tab and select the Report Wizard from the reports group.
   Step (ii) Screen 1 of report wizard appears. Select the table and chose the fields you want to see in the reports. Click Next.
   Step (iii) Screen 2 of report wizard opens up. Select the Grouping Level and click Next.
   Step (iv) Screen 3 of the report wizard opens up where you can set the sort order and the summary options. You can sort data by upto four fields. By default, sorting is in the Ascending order. Click the Appropriate button and click Next.
   Step (v) Report wizard screen 4 appears. In that select the type of layout and orientation of the report required and click Next.
   Step (vi) Screen 5 of the report wizard appears and select the Preview the report and click Finish. This will generate the report.

E. 1 (a) Layout view and design view (b) Design view (c) Datasheet view

4. ADVANCED ANIMATIONS IN ANIMATE CC

Brain Tuner

A. 1. (c) 2. (b) 3. (b) 4. (b) 5. (c)

B. 1. timeline 2. Keyframes 3. Playhead 4. Motion 5. Filters

C. 1. (T) 2. (T) 3. (F) 4. (F) 5. (T)

D. 1. Query refers to the action of instructing the database to return some (or all) of the data in your database. Ex- Query wizard and Query Design. Form in Access is a database object that you can use to create a user interface for a database application.
Report consists of information that is pulled from tables or queries, as well as information that is stored with the report design, such as labels, headings, and graphics.
   1. Using the Form Command 2. Using Split Form
   3. Using the Form Wizard

2. So, to create a table in design view, let's open the same database Students. In order to add more tables to it:
   Step (i) Click Create tab.
   Step (ii) Click Table Design in the Tables Group.
   Step (iii) The following screen appears as shown in the figure 2. The important parts of the Design View window panes are:

   A. Field Definition Grid
   i. Field Selector ii. Field Name iii. Data Type iv. Description
   B. Field Properties pane

3. Lookup wizard establish a relationship between tables. To create a form by using the form wizard.
   1. On the create tab, in the forms group. Click form wizard.
   2. Follow the directions on the pages of the form wizard.
   3. On the last page of wizard, Click finish.

4. There are three ways in which a form can be created are:
   Using the Form Command Using Split Form
   Using the Form Wizard

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   Step (i) Go to Create Tab and select the Report Wizard from the reports group.
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   Step (iv) Screen 3 of the report wizard opens up where you can set the sort order and the summary options. You can sort data by upto four fields. By default, sorting is in the Ascending order. Click the Appropriate button and click Next.
   Step (v) Report wizard screen 4 appears. In that select the type of layout and orientation of the report required and click Next.
   Step (vi) Screen 5 of the report wizard appears and select the Preview the report and click Finish. This will generate the report.

E. 1. Print ("Press 'x' to move boat in left to right direction/n);
   Print (" Press 'y' to move boat);

2. Select a layer in composition Panel, or display a layer in the Layer Panel. Choose Layer> Mark> New Mark and type any quote.

3. Use Oval primitive Tool to drew your circle the size you want draw on stage in a keyframe. Set its start angle to O and end angle to O.

4. (i) Select Insert> Timeline> frame (F38)
   (ii) To create a keyframe, select Insert> Timeline> keyframe (F6) to the frame where you want to place a keyframe and select Insert Keyframe from the context menus.

Brain Tuner

A. 1. (d) 2. (a) 3. (d) 4. (d) 5. (b) 6. (a)

B. 1. •py 2. lash (#) 3. oriented and portable 4. # 5. Print

C. 1. (T) 2. (T) 3. (F) 4. (F) 5. (T)

D. 1. Python has five standard data types:
Numeric - Python numeric data type is used to hold numeric values like;
String - The string is a sequence of characters. Python supports Unicode characters. Generally, strings are represented by either single or double quotes.
List - List is an ordered sequence of some data written using square brackets ([ ]) and commas (,).
Tuple - Tuple is another data type which is a sequence of data similar to list. But it is immutable. That means data in a tuple is write protected. Data in a tuple is written using parenthesis and commas. #tuple having only integer type of data.
Dictionary - Python Dictionary is an unordered sequence of data of key-value pair form. It is similar to the hash table type. Dictionaries are written within curly braces in the form key: value. It is very useful to retrieve data in an optimized way among a large amount of data.

2. Lists are used to store multiple items in a single variable. List are one of the 4 built in data types in python used to store collections of data.
While Tuples are used to store multiple items in a single variable. Tuple is one of 4 built-in data types in python used to store collection of data.

3. In Python, like all programming languages, data types are used to classify one particular type of data. This is important because the specific data type you use will determine what values you can assign to it and what you can do to it.
There are few examples of data types used in python.

Data types	**Examples**
Strings	"Hello!" "20 : 24"
Integers	5462
Floats	2.1513
Booleans	True, false
Wists	(1, 2, 3, 4, 5)
Tuples	(1, 2, 3, 4, 5)
Dictionaries	{"a" 1, "b" 2, "c", 3.}

4. Comments can be used to explain Python code comments can be used to make the code more readable. Comments can be used to prevent execution when testing code.

6. ITERATIVE STATEMENTS IN PYTHON

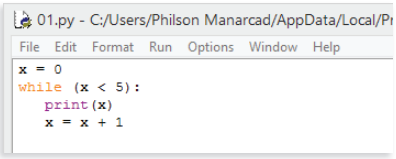
Brain Tuner

A. 1. (c) 2. (a) 3. (c) 4. (a) 5. (a)

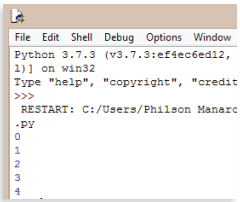
B. 1. iteration 2. While 3. No 4. True 5. membership

C. 1. (F) 2. (F) 3. (F) 4. (F) 5. (T)

D. 1. **While Loop:** While Loop in Python is used to execute a block of statement as long as a given condition is true. And when the condition is false, the control will come out of the loop. The condition is checked every time at the beginning of the loop.
Example 1: Using while loop to print first five numbers.

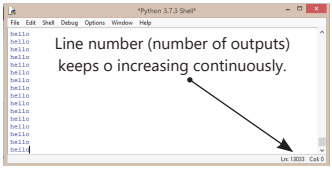


Output



Infinite While Loop In Python: A Infinite loop is a loop in which condition always remain True. Example:

Output



While Loop With Else In Python: The else part is executed if the condition in the while loop becomes False.
Syntax
while (condition): loop statements else: else statements
Let's understand While Loop with Else in more detail using an example.
Example: Using WHILE ...ELSE Loop print the values in each loop.

For Loop: For loop in Python is used to iterate over items of any sequence, such as a list or a string.
For Loop Syntax for val in sequence: statements
Flowchart of For Loop
Example 3: Using FOR Loop to print numbers between the range from 1 to 5.

Nested For Loops: When one Loop is defined within another Loop, it is called as Nested Loop.
Syntax:
for val in sequence:
  for val in sequence:
    statements
statements
Let's understand this looping structure in more detail using some examples. Example: Using Nested for Loop, prepare the pattern. (As shown in output screen)
The range ( ) Function: The range ( ) function generates the integer numbers between the given start integer to the stop integer, which is generally used to iterate over with for Loop. Python range ( ) accepts an integer and returns a range object, which is nothing but a sequence of integers. Let's understand how to use range ( ) function with the help of simple examples. For example, Using range ( ) function with FOR Loop.

2. **Nested For Loops:** When one Loop is defined within another Loop, it is called as Nested Loop.
   Syntax:
   for val in sequence:
     for val in sequence:
       statements
   statements
   Nested While loop: A nested while loop is a while statement inside another while statement.
3. An Infinite loop is a loop in which condition always remain True.
   Example- i = -1 While (i ! = 0) Print (1 i = I)
4. # include <io stream> int main ( ){
   using name space std, int sum = o, i, n, for (i = o; i< 10; + +)}
   cout << "Enter number" << end 1:
   Cin >> n;
   Sum = Sum + n; {
   Cout << "sum" is << Sum << end 1; return O;
   }
5. These are two membership operators (in, not on). It displays the result in the given sequence or string centered on the present variable.
   The 'in' operator : The 'in' operator is used to check if a value exists in a sequence or not. Evaluates to true if it finds a variable in the specified sequence and false otherwise.

E. 1. n = int (input ("Enter the number of rows"))
   # outer loop to handle number of rows for 1 is range (o, n):
   # inner loop to handle number of rows for i in range (o, n):
   # inner loop to handle number of columns.

values is changing according to outer loop foj in range (o, i + 1):
printing stars print ("*" end " ")
ending line after each row print ( )

2. x = 10
# while x< = 10
for i in range (10, 11):
print (x) x + =1

4. 1. # include <studio •h> 2. int main 3. {
4. inti, fact = 1, numbers i 5. Print f ("Enter a numbers:")
6. Scant ("% d", 2 number); 7. For (i = 1, i < = number' i ++)
8. fact = fact * i; {Print f (factorial of % d n: % d, number, fact);
return O; }

7. INTRODUCTION TO C++

Brain Tuner

A. 1. (?) 2. (d) 3. (a) 4. (a) 5. (a)

B. 1. C 2. •Cpp 3. Main ( ) 4. Memory address 5. While loop

C. 1. (T) 2. (T) 3. (F) 4. (T) 5. (T)

D. 1. These are different types of variables used in C++ programming language are:
1. Bool: Stores either value true or false.
2. Char : Typically a single octate (one byte). This is an integer type.
3. Int: The most natural size of integer for the machine.
4. Float: A single-precision floating point value.
5. Double: A double-precision floating point value.
7. Void: Represents the absence of type.
8. wchar_t :A wide character type.

2. **SAVING A PROGRAM IN C++** To save the written program, follow the following steps:
Step (i) From the file menu Select → Save
Step (ii) To save in customized name Select → Save As
Step (iii) The Save As window appears as in figure 8. You can change the current name (default name) appearing in the box by simply typing a new name (newfile.app) there. You can also specify a directory to store the file. Click OK

3. iostream •h header files are used in Standard Input Stream in C++. Cin is an object of the input stream and is used to take input from input streams like flies, console, etc. cout is an object of the output stream that is used to show output.

4. # include <iostream> using namespace std;
   void main ( )
   { cout << "name :: Nick" >> end 1
   << "Address" :: House # 12 c-Block New Delhi" <<end1;
   <<"phone number" :: Oll -2439xxx <<end 1"
   }
5. A variable provides us with named storage that our programs can manipulate. Each variable in C++ has a specific type, which determines the size and layout of the variable's memory; the range of values that can be stored within that memory; and the set of operations that can be applied to the variable.
   Type variable Name = value; where type is one of C++ types (such as int), and variable name is the name of the variable (such as any name). The equal sign is used to assign values to the variable.

E.
1. For words in words is words in counts:
   Counts [word] + =1
   else
   Counts [word] = 1
   return counts
2. # include <iostream>
   using namespace std;
   int main ( )
   {
   count <<subject" <<"\tmarks"<<"\n mathematics\ t"
   << 90 <<"\n computer\ t" <<77<<"\ n chemistry\ t" <<69;
   return 0;
   }
3. Output in 36
4. # include <iostream>
   using int std;
   int main ( )
   {
   Cout << int p" <<" int q" <<int r" <<"int s";
   return (o)
   }
5. Output is = 10

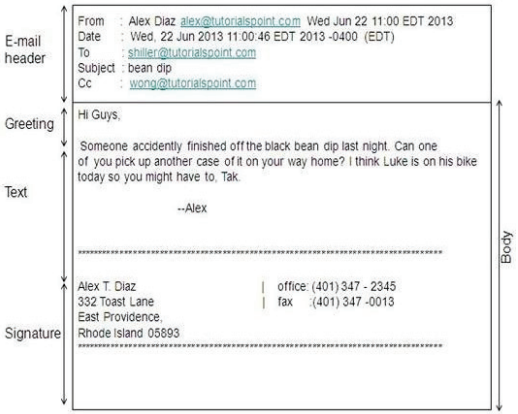
Brain Tuner

A. 1. (a) 2. (c) 3. (d) 4. (a) 5. (d)

B. 1. E-commerce 2. Capital investment 3. EDI
4. E- mail address 5. Electronic bulletin boards

C. 1. (T) 2. (T) 3. (T) 4. (T) 5. (F)

D. 1. E-mail message comprises of different components: E-mail Header, Greeting, Text, and Signature. These components are described in the following diagram:



2. There are various options:

From : The From field indicates the sender's address i.e. who sent the e-mail.

Date : The Date field indicates the date when the e-mail was sent.

To : The To field indicates the recipient's address i.e. to whom the e-mail is sent.

Subject : The Subject field indicates the purpose of e-mail. It should be precise and to the point.

CC : CC stands for Carbon copy. It includes those recipient addresses whom we want to keep informed but not exactly the intended recipient.

BCC : BCC stands for Black Carbon Copy. It is used when we do not want one or more of the recipients to know that someone else was copied on the message.

Greeting : Greeting is the opening of the actual message. Eg. Hi Sir or Hi Guys etc.

Text : It represents the actual content of the message.

Signature : This is the final part of an e-mail message. It includes Name of Sender, Address, and Contact Number.

Brain Tuner

A. 1. (d) 2. (d) 3. (d) 4. (a) 5. (?)

B. 1. AI 2. Edge computing 3. Machine learning
4. automate 5. enhances

C. 1. (T) 2. (T) 3. (T) 4. (T) 5. (T)

D. 1. Artificial Intelligence, or AI, has already received a lot of buzz in recent years, but it continues to be a trend to watch because its effects on how we live, work and play are only in the early stages. In addition, other branches of AI have developed, including Machine Learning, which we will go into below. AI refers to computers systems built to mimic human intelligence and perform tasks such as recognition of images, speech or patterns, and decision making. AI can do these tasks faster and more accurately than humans.

2. Machine Learning is a subset of AI. With Machine Learning, computers are programmed to learn to do something they are not programmed to do: They literally learn by discovering patterns and insights from data. In general, we have two types of learning, supervised and unsupervised.
While Machine Learning is a subset of AI, we also have subsets within the domain of Machine Learning, including neural networks, natural language processing (NLP), and deep learning. Each of these subsets offers an opportunity for specializing in a career field that will only grow.
Machine Learning is rapidly being deployed in all kinds of industries, creating a huge demand for skilled professionals. The Machine Learning market is expected to grow to $8.81 billion by 2022.
Machine Learning applications are used for data analytics, data mining and pattern recognition. On the consumer end, Machine Learning powers web search results, real-time ads, and network intrusion detection, to name only a few of the many tasks it can do.

3. IoT provides businesses with a real-time look into how their companies' systems really work, delivering insights into everything from the performance of machines to supply chain and logistics operations.
IoT enables companies to automate processes and reduce labor costs. It also cuts down on waste and improves service delivery, making it less expensive to manufacture and deliver goods as well as offering transparency into customer transactions.

IoT touches every industry, including healthcare, finance, retail and manufacturing. Smart cities help citizens reduce waste and energy consumption and connected sensors are even used in farming to help monitor crop and cattle yields and predict growth patterns. As such, IoT is one of the most important technologies of everyday life and it will continue to pick up steam as more businesses realize the potential of connected devices to keep them competitive.

4. Cybersecurity might not seem like emerging technology, given that it has been around for a while, but it is evolving just as other technologies are. That's in part because threats are constantly new. The malevolent hackers who are trying to illegally access data are not going to give up any time soon, and they will continue to find ways to get through even the toughest security measures. It's also in part because new technology is being adapted to enhance security.
Many cybersecurity jobs pay six-figure incomes, and roles can range from the ethical hacker to security engineer to Chief Security Officer, offering a promising career path for someone who wants to get into and stick with this domain.

E. 1. Austin wants to automate his home controlling system. Suggest him a technology to do so. IoT

2. Artificial Intelligence (AI) is an umbrella term for computer software that mimics human cognition in order to perform computer tasks and learn from them. Machine learning (MC) is a subfield of AI that uses algorithms trained on data to produce adaptable models that can perform a variety of complex tasks.

REVISION SHEET–1

A. 1. lacks 2. relational 3. Field name 4. Tools panel 5. beautify

B. 1. (a) 2. (a) 3. (b) 4. (a) 5. (c)

C. 1. (T) 2. (T) 3. (T) 4. (T) 5. (T)

D. 1. **Disadvantages**
1. The cost of computer networking in very high.
2. It can lead us to lose access to information very quickly.
Advantages
1. Easy of accessibility 2. Flexibility

2. The basic components of a database management system are: Storage engine, Query language. Data utilities etc.

3. One easy way to switch between the views by clicking the down arrow next to the view button on the tool bar. Then select the view you want from the drop down list that appears.

4. The brush tool creates soft or hard strokes of colour. You can use it to stimulate air brush techniques.
5. Go To Window> text wrap to bring up the menu. With your object selected. Click the third icon. Adjust the boundaries. In the text warp menu you can make wrap borders extend further from the shop by imputing a value in the boundary box.

E. 1. Modem, Ethernet, cable. 2. Home tab 3. Datasheet view
4. Choose Gradient mode from same drop down menu.
5. Spot Healing brush tool.

REVISION SHEET–2

A. 1. Keywords 2. Boolean 3. list 4. podcast 5. images

B. 1. (c) 2. (b) 3. (a) 4. (c) 5. (c)

C. 1. (F) 2. (T) 3. (F) 4. (T) 5. (T)

D. 1. 1.You must use as a letter as a first character.
2. You can't use a space, period (), or characters @, &, $
3. Name can't exceed 255 characters in length.

2. Input Box and Mgbox are two useful functions. Each opens a dialog window, which closes when the user responds. Input Box is what to retrieve input from user and Msg Box is used for outputs.

3. 1. Open your HTML file and choose where to insert your email link.
2. Type in the anchor tag "a href =" after the "<"symbol to show a link in your HTML code.
3. Include the "mail to:" tag after the "=" send the link to an address email.

4. HTML table tag is used to display data in tabular forms. like <th>, <td>, <caption>, <col group>.

5. A blog is very similar to a website, where one can find content regarding any topic in a written format along with images, gifts etc. Vlog consists of video content published on any topic while a site containing a Portfolio of sketches is called sketchblog.

E. 1. Message box function 2. <a> and tag
3. HTML unordered list
4. The <img> border attribute is used to specify the border width around the image.
5. Online Video Editor and Animator.

Cyber Olympiad

1. (c) 2. (a) 3. (d) 4. (a) 5. (a) 6. (b) 7. (b) 8. (c) 9. (c) 10. (a)
11. (a) 12. (b) 13. (c) 14. (a) 15. (a) 16. (c) 17. (b) 18. (c) 19. (c) 20. (d)