Class 8

# Answer Key

TOUCHPAD PLAY(Ver. 2.1)

## 1. Number System

**A.** 1. b 2. a 3. d 4. a 5. b

**B.** 1. T 2. F 3. T 4. T 5. T

**C.** 1. 0 2. decimal number 3. 10
4. 8 5. binary

**D.** 1. The octal number system consists of eight digits from 0 to 7.
2. There are 8 bits in 1 byte.
3. Base of a number system represents the total number of digits in a number system.

**E.** 1. A Number System is simply a method of counting. There are many number systems in existence. The digital computer represents all kinds of data and information like audio, graphics, video, text and numbers in binary form. The total number of digits used in a number system is called its base or radix.

2. To convert a decimal number into a binary number, follow these steps:

Step 1 Divide the decimal number by 2 (the base of the binary number system).

Step 2 Note down the quotient and the remainder.

Step 3 Divide the quotient obtained again by 2 and note down the resulting quotient and remainder.

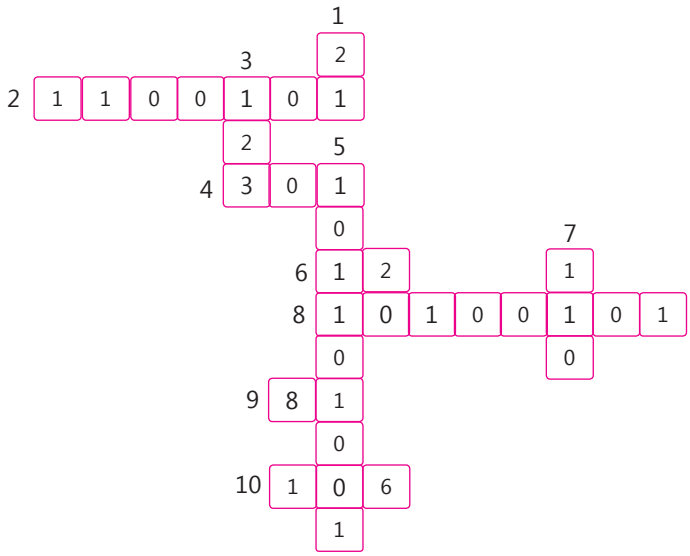
Step 4 Repeat the procedure till you reach a quotient less than 2.

Step 5 Arrange the final quotient and all remainders in reverse order (from bottom to top) to get the binary number.

3. Binary subtraction rules to subtract two numbers are:

| X | Y | X – Y |
|---|---|---|
| 0 | 0 | 0 – 0 = 0 |
| 0 | 1 | 0 – 1 = 1 (borrow 1, so that 10 – 1 = 1) |
| 1 | 0 | 1 – 0 = 1 |
| 1 | 1 | 1 – 1 = 0 |

**F.**




**G.** 1. $(256)_8$ → This number system belongs to octal number system.

$(2AF)_{16}$ → This number system belongs to hexadecimal number system.

He can tell by looking at the base of the number.

2. The binary equivalent of $(155)_{10}$ is $(10011011)_2$.

**IN THE LAB**

Do it yourself.

# 2. Computer Networking

## EXERCISE

**A.** 1. a 2. b 3. c 4. a

**B.** 1. F 2. T 3. T 4. T 5. T

**C.** 1. Protocol 2. SMTP 3. Router 4. Mesh 5. NIC

**D.** 1. The process of connecting computers and peripheral devices with each other, so that they can exchange data is called computer networking.

2. A client is a computer which depends on the server for specific resources.

A server controls the access to the hardware and software on the network.

3. Topology refers to the physical or logical arrangement of computers or nodes in a network.

4. The components needed for a network are:
   (i) Network Interface Card (NIC)
   (ii) Hub or switch
   (iii) Router
   (iv) Modem
   (v) Networking Cable (Ethernet Cable)

**E.** 1. The advantages of computer network are:
   (i) The information can be easily shared by the people.
   (ii) It helps in reducing the cost of hardware.
   (iii) Store information on one centralised location.
   (iv) Reliability implies backing up of information. If a system crashes, then the information is accessible on another workstation for future use.
   (v) Reduction in installation cost.
   (vi) User authentication process to secure the data.

2. LAN is a digital communication system that interconnects a larger number of computers and other peripheral devices within a radius of less than 1 km. MAN consists of two or more local area networks or campus area networks together that usually spans several buildings in the same city or town.

3. Protocol is a set of rules that governs the communication between the computers on a network. Some of the protocols used for different operations on the Internet are:
   - Hypertext Transfer Protocol (HTTP)
   - Hypertext Transfer Protocol Secure (HTTPS)
   - File Transfer Protocol (FTP)
   - Transmission Control Protocol/Internet Protocol (TCP/IP)

**F.** 1. Ring Topology

2. Web Server

**IN THE LAB**

Do it yourself.

# 3. Photo Editor and Video Editor

## Exercise

**A.** 1. c 2. a 3. b 4. d 5. c

**B.** 1. T 2. T 3. F 4. T

**C.** 1. Menu Bar, Function Tabs, and Timeline

2. Video editing is the process of adding or removing content from an existing video and applying effects to it.

3. Yes, we can add transition effects in a video using Transitions button.

**D.** 1. Rotating means to change the position of a photo at different angles whereas flipping means to get the mirror image of the photo either horizontally or vertically.

2. Perform the following steps to import a media file:

Step 1 Click on the File menu. A drop-down menu appears.

Step 2 Select the Import Files option. The Import Files dialog box opens.

Step 3 Navigate to the location where the media file is saved.

Step 4 Select the desired video.

Step 5 Click on the Open button.

The selected file gets added to the Project Files.

3. Follow the steps given below to use the Adjustments feature:

Step 1 Open a photo in editing mode.

Step 2 Click on the Adjustments tab. The Adjustments pane with various adjustment options appear at the right-hand side in the Photos app window.

Step 3 Adjust the brightness of the photo by moving the options in the Light Slide.

Step 4 Adjust the colours of the photo by moving the options in the Color slide.

Step 5 Click on the Save options button to save the changes made.

**E.** Rahul can use the Crop option in the Photos app to remove the unwanted corners of his childhood photo.

### In the Lab

Do it yourself.

# Periodic Assessment 1

(Based on chapters 1 to 3)

**A.** 1. Local Area Network
2. Personal Area network
3. Star Topology
4. Mesh Topology

**B.** 1. File
2. Import Files, Import Files
3. location
4. video
5. Open

**C.** 1. c 2. e 3. b 4. a 5. d

## 4. Introduction to TUPI 2D

### Exercise

**A.** 1. a 2. a 3. b 4. a 5. d

**B.** 1. F 2. T 3. F 4. F 5. T

**C.** 1. Animation is a way through which you can show characters and objects live.

2. Ink tool is used for creating and outlining artwork with various brush styles, giving a more refined and stylised look to your drawings.

3. Menu Bar, Modules Tab and Workspace

**D.** 1. To start TUPI 2D, follow these steps:

Step 1 Type TupiTube in the search box.

Step 2 Click on TupiTube Desk app.

2. Object Selection tool helps the user to modify, flip or group objects as per their requirements whereas Node Selection tool helps to reorder the nodes which were created while drawing an object.

**E.** Sahil can use Fill Tool.

**In the Lab**

Do it yourself.

# 5. Animations in TUPI 2D

## Exercise

**A.** 1. c 2. a 3. b 4. c

**B.** 1. F 2. F 3. F 4. T

**C.** 1. Tweening is a feature that helps us to make animation process easier and faster.

2. Layers are like stack of transparent sheets that are used to work on the individual part of the image without affecting the other parts.

3. Coloring Tween changes the color from the beginning frame to the ending frame.

**D.** 1. We can insert the frames in TUPI 2D by following the given steps:

Step 1 Click on the **Exposure Sheet** in the right sidebar.

Step 2 Click on **Insert frame** button.

A new frame will be inserted.

2. To use Motion tween, follow the given steps:

Step 1 Draw any object on the workspace area. Here we have drawn a rectangle.

Step 2 Click on Tween option from the Toolbox.

Step 3 Choose Motion Tween option.

Step 4 Type a name for the tween and click on + button.

Step 5 Select the object by using the Object Selection tool.

Step 6 Click on Set Path Properties radio button.

Step 7 Click at different points to set the path for the animation. As you click, Tupi will automatically create path for you.

Step 8 Click on Save Tween button to save the animation.

Step 9 Click on Player tab to play the animation in the player window.

3. Rotation Tween is useful to rotate an object clockwise and anti-clock wise because the Rotation tween automatically rotates the object as per the specification given.

**E.** To rename a layer, double-click on the layer, type a new name, and press the **Enter** key.

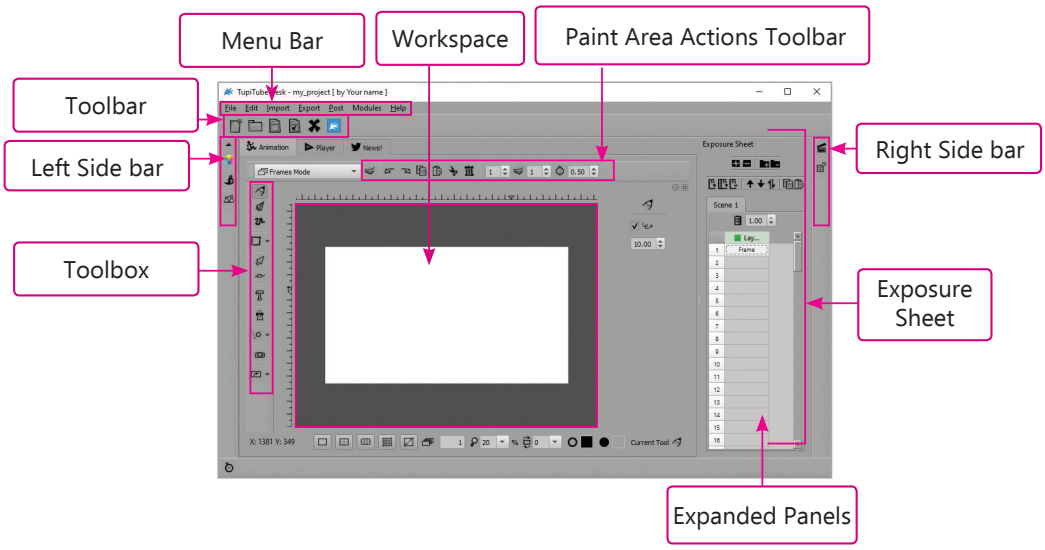
### In the Lab

Do it yourself.

# Periodic Assessment 2

(Based on chapters 4 & 5)

**A.**




**B.**

1. This tween helps move an object. The Motion tween automatically creates intermediate frames for you.
2. A frame is a single animation that is applied on an object or picture on a timeline. Frames hold the content of the project at a particular moment.
3. This tween changes the object's horizontal and vertical shear.
4. PolyLine tool is a drawing tool that allows users to create lines composed of multiple straight segments.

**C.**

1. Welcome screen
2. Expanded Panel
3. Color Palette
4. Opacity tween

# Test Sheet 1

(Based on chapters 1 to 5)

## Section A

**A.**

| | | | | |
|---|---|---|---|---|
| 1. c. | 2. a. | 3. b. | 4. a. | 5. d. |
| 6. c. | 7. b. | 8. c. | 9. b. | 10. a. |

**B.** 1. F 2. F 3. F 4. F 5. T
6. T 7. T 8. T 9. T

**C.** 1. 0 2. decimal number 3. 10 4. 8
5. Binary 6. Protocol 7. SMTP 8. Mesh

## Section B

**A.** 1. The octal number system consists of eight digits from 0 to 7.

2. Layers are like stack of transparent sheets that are used to work on the individual part of the image without affecting the other parts.

3. Menu Bar, Function Tabs, and Timeline

4. Yes, we can add transition effects in a video using Transitions button.

5. Ink tool is used for creating and outlining artwork with various brush styles, giving a more refined and stylised look to your drawings.

6. A client is a computer which depends on the server for specific resources.

   A server controls the access to the hardware and software on the network.

**B.** 1. To use Motion tween, follow the given steps:

Step 1 Draw any object on the workspace area. Here we have drawn a rectangle.

Step 2 Click on Tween option from the Toolbox.

Step 3 Choose Motion Tween option.

Step 4 Type a name for the tween and click on + button.

Step 5 Select the object by using the Object Selection tool.

Step 6 Click on Set Path Properties radio button.

Step 7 Click at different points to set the path for the animation. As you click, Tupi will automatically create path for you.

Step 8 Click on Save Tween button to save the animation.

Step 9 Click on Player tab to play the animation in the player window.

2. We can insert the frames in TUPI 2D by following the given steps:

Step 1 Click on the Exposure Sheet in the right sidebar.

Step 2 Click on Insert frame button.

A new frame will be inserted.

3. To add object in the library, follow these steps:

Step 1 Click on the Library button.

Step 2 Select the type of object that you want to add in the library.

Step 3 Click on + symbol to add an object in into the library. The Import image dialog box will appear.

Step 4 Navigate the location and select file.

Step 5 Click on the Open button.

4. Perform the following steps to import a media file:

Step 1 Click on the File menu. A drop-down menu appears.

Step 2 Select the Import Files option. The Import Files dialog box opens.

Step 3 Navigate to the location where the media file is saved.

Step 4 Select the desired video.

Step 5 Click on the Open button.

The selected file gets added to the Project Files.

5. LAN is a digital communication system that interconnects a larger number of computers and other peripheral devices within a radius of less than 1 km. MAN consists of two or more local area networks or campus area networks together that usually spans several buildings in the same city or town.

6. To convert a decimal number into a binary number, follow these steps:

Step 1 Divide the decimal number by 2 (the base of the binary number system).

Step 2 Note down the quotient and the remainder.

Step 3 Divide the quotient obtained again by 2 and note down the resulting quotient and remainder.

Step 4 Repeat the procedure till you reach a quotient less than 2.

Step 5 Arrange the final quotient and all remainders in reverse order (from bottom to top) to get the binary number.

# 6. Latest Technological Developments

## Exercise

**A.** 1. c 2. b 3. a 4. a 5. b

**B.** 1. Augmented Reality 2. RPA 3. Shakey
4. Virtual Reality 5. Rapid Prototyping

**C.** 1. F 2. T 3. F 4. T 5. F

**D.** 1. AI is the branch of computer science that aims at creating expert and intelligent computer systems which simulate certain human qualities such as, learning, reasoning, communicating, seeing, hearing, and sensation.

2. Pattern Recognition software comprises of a camera and software which together identify repetitive patterns and establish connections between the patterns stored in the database and the perceived patterns.
3. Rapid prototyping is used to create models to quickly test a new product before mass production. 3D Printing can be termed as a RP method.
4. RPA (Robotic Process Automation) refers to the process of automating certain tasks in an industry through the use of robots. The purpose of RPA is to transfer the execution of the process from humans to robots.
5. Intelligent Apps are software written for mobile devices based on artificial intelligence and machine learning technology, aimed at making everyday tasks easier.

**E.** 1. a. Blockchain refers to a decentralised system of recording information that makes it difficult or impossible to change, hack, or cheat the system.

b. Natural Language processing is the study of methods by which computers can recognize and understand spoken or written human language. Speech recognition software is an example of NLP where computers translate spoken speech into text.

c. Shakey was the first robot that used AI to navigate. It was developed in Artificial Intelligence Center of the Stanford Research Institute (SRI) from 1966 to 1972. There are so many robots that use AI such as Rosie and Roscoe are used in hospitals to supply medicines, Robodoc performs hip implant surgeries, Roomba and Scooba can do housework such as cleaning the floor, etc.

2. Applications of AR are:

a. SixthSense device
b. Google Glass
c. Star Walk
d. Coloring book

Applications of VR are:

a. Oculus Rift
b. VR in education
c. VR in medical

3. Internet of Things is a system of connected computing devices, mechanical and digital machines for creating a virtual network where a monitoring center ensures that everything is working smoothly.

Each connected device has a unique identifier and can transfer data over the network without any human intervention. The connected devices gather and share data about their usage and their operative environment. The devices can be your smartphones, refrigerators, televisions, washing machines, etc.

4. The applications of 3D Printing are:

a. Education
b. Rapid Prototyping (RP) Method
c. Medicines
d. Construction
e. Art and Jewelry

5. AR stands for Augmented Reality, in this technology virtual objects are created and visualized alongside with real life objects. Whereas VR or Virtual Reality is completely virtual yet it feels real. While using the AR tech, you can partially see the real world, whereas the VR tech completely cuts you off from the real world. It takes you to a virtual world where everything is just a simulation.

**F.**

| K | J | I | A | R | T | I | G | V | D | A | V | X | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | G | K | R | D | F | U | P | B | C | D | S | K | Z |
| R | O | B | O | T | I | C | S | J | H | F | G | S | S |
| D | F | S | S | T | A | R | W | A | L | K | W | R | H |
| G | D | C | E | G | F | F | R | R | T | R | W | H | A |
| C | Z | C | E | F | D | H | D | E | Y | D | S | G | K |
| H | J | K | C | K | L | H | G | S | H | J | L | T | E |
| V | I | R | T | U | A | L | R | E | A | L | I | T | Y |
| G | G | O | O | G | L | E | G | L | A | S | S | E | W |
| F | D | S | G | A | S | D | F | H | W | E | R | F | S |

**G.** Natural Language Processing

**IN THE LAB**

Do it yourself.

# 7. Images, Links and Frame in HTML5

## EXERCISE

**A.** 1. c 2. c 3. a 4. c 5. b

**B.** 1. F 2. T 3. F 4. F 5. F

**C.** 1. Internal Linking 2. METHOD 3. Type
4. Anchor 5. Select, Option

**D.** 1. HREF stands for Hypertext Reference.

2. ALINK attribute is used to set the color of the active link.

3. An HTML5 form is an interface of a web page that enables the user to enter data (such as names, e-mail addresses, passwords, phone numbers, etc).

4. THE **<IFRAME> TAG** IN HTML ALLOWS YOU TO EMBED ANOTHER HTML DOCUMENT WITHIN YOUR CURRENT WEB PAGE.

**E.** 1. a. This attribute is used to specify the action that will take place when we submit the form values. It takes the URL of another web page or an e-mail address to receive the information.

b. This attribute specifies the type of method the form will use to submit the entered values. The most commonly used values for this attribute are POST and GET.

c. This attribute is used to specify the type of field we want to create. It takes one of the predefined values.

2. Two attributes used with the <IMG> tag are:
   - **Src:** It specifies the source location or URL of the image to be inserted in the web page. For example,

     <IMG SRC="C:/Mydocuments/lily.jpg">
   - **Width:** It specifies the width of the image on the web page. For example,

     <IMG SRC="lily.jpg" WIDTH="50%">

3.
```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE>Audio</TITLE>
</HEAD>
<BODY>
<H1 STYLE="TEXT-ALIGN: center; COLOR: red;">Welcome to the Musical World</H1>
<P STYLE="TEXT-ALIGN: center;">
<BR>
<IMG SRC="MusicalNote.jpg">
</P>
<AUDIO SRC="Flute.mp3" CONTROLS AUTOPLAY>
</AUDIO>
</BODY>
</HTML>
```

4. The <FORM> tag contains elements like <INPUT>, <SELECT>, and <TEXTAREA>.

**F.** 1. Sunil can use the <AUDIO> and <VIDEO> tags in HTML to add audio and video to his web page for his project.

2. Divya can use the <IMG> tag to add images to her web page.

**IN THE LAB**

Do it yourself.

# 8. Computer Safety and Security

## Exercise

**A.** 1. c 2. b 3. b

**B.** 1. Malware 2. Biometric 3. Decryption 4. Antivirus 5. Zombie

**C.** 1. Authentication is the process of verifying a user's identity before granting him or her access to a computer system. Types of authentication are: Password Protection, Biometric Authentication,etc.

2. Trojan horse is a type of malware. It conceals itself inside the software that seems legitimate.

3. Some well-known antivirus programs are Norton, AVG, McAfee, Symantec, Kaspersky, etc.

**D.** 1. An **antivirus** program is software designed to detect the presence of a virus on a computer and remove it.

2. Malware is a **malicious software** designed to harm or exploit computer systems, networks, or users.

3. A computer virus is a 'piece of code' or program developed to corrupt the data or program files stored on the computer system. It enters the computer without permission of the user. The user of the computer may not even realise that the computer is affected by a virus.

Whereas, A computer worm is a type of malware that has the capability to replicate itself without any human interaction. It consumes lots of memory space in replication. Once a computer has been infected by a worm, its processing speed gets slow-down, works unexpectedly and halts other tasks.

**E.** 1. Worm 2. Trojan Horse 3. Zombie

**F.** 1. Password protection.

2. His computer is infected by a virus. It can be resolved by installing antivirus software like McAfee.

### In the Lab

Do it yourself.

# Periodic Assessment 3

(Based on chapters 6 to 8)

**A.** 1. Rootkit is a malware that gains administrator access to the host system. Once the attacker gains access to the system, the rootkit gets hidden but retains special access to the system.

2. A backdoor is a method of bypassing normal authentication or security mechanisms in a computer system, network, or software application to gain unauthorised access.
3. Firewall is a software or hardware-based network security system that controls the incoming and outgoing network traffic based on applied rule set.

**B.** 1. Augmented Reality
2. Virtual Reality
3. Global Positioning System
4. Hypertext Reference
4. Internet of Things
5. Internet Protocol

**C.**
```
<!DOCTYPE html>
<HTML>
<HEAD> <TITLE> Inserting Image </TITLE>
</HEAD>
<BODY>
<B> Inserting image on the web page </B>
<IMG SRC="lily.jpg" WIDTH="200px" HEIGHT="200px" ALIGN=”right” BORDER="2">
</BODY>
</HTML>
```

# 9. Algorithmic Intelligence

## Exercise

**A.** 1. b 2. c 3. c 4. a

**B.** 1. condition 2. if 3. else 4. conditional

**C.** 1. Conditional statements are used in a program to instruct the computer to make a decision. The result of the condition will always be either true or false.
2. **AND:** Results in true only if both the conditions are true. If any one condition is false, the result will be false.

   **OR:** Results in true if at least one of the conditions is true. If both are false, the result will be false.
3. A loop allows a set of instructions or a block of code to be executed repeatedly.

**D.** 1. Loops help in automating repetitive tasks and makes the code more efficient by avoiding the need to write the same instructions multiple times.

2.
```
today = "Sunday"
match = "yes"
IF today = "Sunday" AND match = "yes"
THEN
   PRINT "We have a match on Sunday"
ELSE
   PRINT "No match on Sunday"
```

3.
```
day = "Saturday"
exam = "yes"
IF day != "Saturday" AND day != "Sunday" OR exam = "yes"
THEN
   PRINT "Exam today"
ELSE
   PRINT "No exam on weekend"
```

**E.** 1.

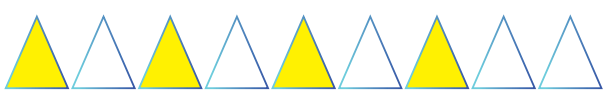
| Num1 | 4 | 7 | 87 | 45 | 22 |
|---|---|---|---|---|---|
| Num2 | 7 | 5 | 34 | 32 | 90 |
| Print | Num 2 is greater | Num 1 is greater | Num 1 is greater | Num 1 is greater | Num 2 is greater |

2.

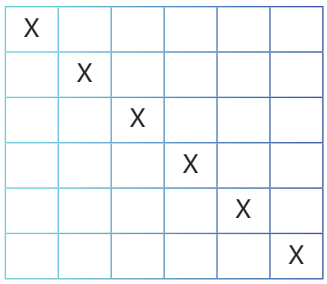
| Marks | 45 | 40 | 55 | 49 | 85 |
|---|---|---|---|---|---|
| Result | Fail | Fail | Pass | Fail | Pass |

3. Start

| | | | | | |
|---|---|---|---|---|---|
| X | ✓ | | | | |
| | X | ✓ | | | |
| | | X | ✓ | | |
| | | | X | ✓ | |
| | | | | X | ✓ |
| | | | | | |

**F.** 1. 

2. Start




**G.** 1. Lokesh can use a loop in his program.

2.
```
READ year
IF year % 400 = 0
THEN
   PRINT "Yes"
ELSE
   PRINT "No"
```

**IN THE LAB**

Do it yourself.

# 10. Loops in Python

## EXERCISE

**A.** 1. a 2. a 3. a 4. c

**B.** 1. One 2. Non-Zero, False 3. Infinite 4. Break, Continue

**C.** 1. T 2. F 3. T 4. T

**D.** 1. Looping refers to the process of repeating a set of statements repeatedly on the basis of a condition until the condition is falsified.

2. The syntax of for loop is as follows:

```
for <counter variable> in range(start, stop, step_size):
    statements
```

3. Jumping statements are used in Python when the control of the program needs to be transferred out of the loop body, even if all the values of the iterations of the loop have not been completed.

**E.** 1. If the condition given in a loop never becomes false, then the loop will never terminate and run indefinitely. This type of loops is called an infinite loop.

Example:

```
while(1)
    print("Hello")
```

**Output:** `Hello will be printed infinite times.`

2. The while statement executes a set of statements repeatedly, until the logical expression evaluates to true. When the condition becomes false, the control comes out of the loop.

   The syntax of while statement is given below:

   Example:

```
count = 1
while count <= 5:
    print("Count is:", count)
    count += 1
```

   **Output:**

   Count is: 1

   Count is: 2

   Count is: 3

   Count is: 4

   Count is: 5

3. When a continue statement is encountered inside a loop, control of the program jumps to the beginning of the loop for next iteration, skipping the execution of rest of the statements of the loop whereas the break is a keyword in Python which is used for bringing the program control out of the loop.

**F.** 1. 55 2. $\frac{2}{4}$

**G.** Continue statement

**IN THE LAB**

Do it yourself.

# 11. Domains of AI

## EXERCISE

**A.** 1. a. 2. a. 3. b. 4. a.

**B.** 1. T 2. T 3. T 4. T 5. T

**C.** 1. Data refers to raw facts and figures that are processed and analyse to find meaningful insights.

2. This is a subfield of AI which helps in communication between human and computer in natural language. It enables a computer to read and understand data by mimicking human natural language.
3. Computer Vision is a very popular field of AI that trains a computer to understand and interpret the visual world.

**D.** 1. Two real life usages of NLP are:

a. NLP checks the sender of the email and categorises the mails as spam or junk.

b. NLP also finds its use in the autocomplete and spell-check feature of word processors.

2. Two advantages of AI are:

a. **Quick Decision Making:** The speed at which humans take decisions is much slower than AI systems. Humans' reaction to situations is much slower whereas AI enabled systems can process information faster and are also structured way more efficiently.

b. **Accuracy:** Human intelligence is not failure proof, but AI systems are. AI driven software can only be faulty due to human limitations or hardware failure. Therefore, AI is used in production lines to detect small cracks or defects in parts that are normally undetectable by the human eye.

3. Applications of computer vision are:

a. Self-driving cars use computer vision to examine their surroundings and plan its path.

b. Drones can use computer vision to examine the health of crops and alert the farmers of the crop's condition.

**E.** Computer Vision

**IN THE LAB**

Do it yourself.

# Periodic Assessment 4

(Based on chapters 9 to 11)

**A.** 1. Natural Language Processing 2. Computer Vision

3. Artificial intelligence

**B.** 1.
```
i = 0
while i < 5:
    print(i)
    i += 1
    if i == 3:
        break
```

```
    else:
        print(0)
```

2.
```
i = 0
while i < 3:
    print(i)
    i += 1
else:
    print(0)
```

**C.**
```
Repeat 4 times
(Move 1 down and Fill Colour)
Repeat 2 times
(Move 1 right and Fill Colour)
```

# Test Sheet–2

(Based on chapters 6 to 11)

## Section A

**A.** 1. a. 2. c. 3. b. 4. c. 5. a.
6. a. 7. a. 8. a.

**B.** 1. T 2. T 3. T 4. F 5. F
6. T 7. F 8. T

**C.** 1. Augmented Reality 2. RPA 3. Shakey 4. Virtual Reality
5. Rapid Prototyping 6. Break, Continue

## Section B

**A.** 1. This is a subfield of AI which helps in communication between human and computer in natural language. It enables a computer to read and understand data by mimicking human natural language.

2. The syntax of for loop is as follows:

```
for <counter variable> in range(start, stop, step_size):
    statements
```

3. Jumping statements are used in Python when the control of the program needs to be transferred out of the loop body, even if all the values of the iterations of the loop have not been completed.

4. A loop allows a set of instructions or a block of code to be executed repeatedly.
5. Trojan horse is a type of malware. It conceals itself inside the software that seems legitimate.
6. ALINK attribute is used to set the color of the active link.

**B.** 1. Two real life usages of NLP are:

a. NLP checks the sender of the email and categorises the mails as spam or junk.

b. NLP also finds its use in the autocomplete and spell-check feature of word processors.

2. If the condition given in a loop never becomes false, then the loop will never terminate and run indefinitely. This type of loops is called an infinite loop.

Example:

```
while(1)
    print("Hello")
```

**Output:** Hello will be printed infinite times.

3. The while statement executes a set of statements repeatedly, until the logical expression evaluates to true. When the condition becomes false, the control comes out of the loop.

Example:

```
count = 1
while count <= 5:
    print("Count is:", count)
    count += 1
```

**Output:**

Count is: 1

Count is: 2

Count is: 3

Count is: 4

Count is: 5

4. Loops help in automating repetitive tasks and makes the code more efficient by avoiding the need to write the same instructions multiple times.
5. An antivirus program is software designed to detect the presence of a virus on a computer and remove it.
6. Two attributes used with the <IMG> tag are:

- Src: It specifies the source location or URL of the image to be inserted in the web page. For example,

  `<IMG SRC="C:/Mydocuments/lily.jpg">`

- Width: It specifies the width of the image on the web page. For example,

  `<IMG SRC="lily.jpg" WIDTH="50%">`