Chapter 10: Scratch

Assignment Solutions

Multiple-Choice Questions (MCQs)

1. In Scratch, the character that moves on the Stage is called a .....

a. Sprite b. Command
c. Script d. Tip

Ans. a

2. The

command can be found under the ..... blocks category.

a. Looks b. Events
c. Sound d. Motion

Ans. a

3. Which of the following categories of blocks is blue in color?

a. Control b. Looks
c. Sound d. Motion

Ans. d

4. Which of the following options allows to add a new Sprite in the Sprite list?

a. Scratch's Sprite library
b. Built-in Paint Editor in Scratch
c. Camera connected to your computer
d. All the above

Ans. a

5. In Scratch, the Stage is like a ..... rectangular grid.

a. 460 x 380 b. 480 × 360
c. 640 x 830 d. 840 x 630

Ans. b

Very Short Answer Questions

6. Define programming.

Ans. The mechanism of writing a computer program is called programming and the languages used for this purpose are known as programming languages.

7. What is a program?

Ans. A computer is an electronic device that works on a set of instructions known as a computer program.

8. What is Sprite?

Ans. Sprite is a character that is usually found in a game or story. The default Sprite in Scratch is the character of a cat.

9. Define Stage in Scratch.

Ans. Stage is a blank area where we can add different Sprites and backdrops, which refer to the background of the Stage.

Short Answer Questions

10. How can you grow and shrink your sprites?

Ans. The Grow icon makes sprites bigger and the Shrink button makes them smaller. To apply any cursor effect, you have to click the icon that you want to use and then click on a sprite (or a script) to apply that action.

11. What does Sprite List show?

Ans. The Sprite list area displays names and thumbnails for all the sprites of your project. In this area, you can see four icons on the top right-hand side and four on the left-hand side.

12. Discuss Scripts area.

Ans. It is a region where blocks can be dragged and dropped in an arrangement to develop coding scripts. When you drag a block around the Scripts area, a white highlight indicates where you can drop that block to form a valid connection with another block.

13. What are different types of tabs present on the Scratch interface?

Ans. There are three types of tabs present on the Scratch interface – Scripts, Costumes, and Sounds. The Scripts tab contains different categories of blocks for scripting a project. The Costumes tab contains blocks to modify or control the costumes of a sprite. The Sounds tab contains the block to apply or edit the sounds of the sprites.

Long Answer Questions

14. Explain the Blocks palette in detail.

Ans. Blocks palette is a palette that contains a list of blocks. A block is an instruction for Sprite or Stage to carry out a task. In Blocks palette, you can see that a notch exists at the top of the block and a bump exists at the bottom of the block. The presence of a notch in a block allows another block to be attached to it. On the other hand, a bump means the block can be attached to another block. In Scratch, blocks are divided into 10 categories (palettes): Motion, Looks, Sound, Pen, Data, Events, Control, Sensing, Operators, and More Blocks. These blocks are color-coded to help you find the related blocks easily.

Categories of Blocks

15. Elucidate any five types of motion blocks.

Ans. The five types of motion blocks are:

- move 10 steps: This block moves a Sprite in the forward direction as per the mentioned steps.
- turn 15 degrees: This block turns a Sprite in the clockwise direction to the number of degrees mentioned in it.
- turn 15 degrees: This block turns a Sprite in the anticlockwise direction to the number of degrees mentioned in it.
- point in direction 90: This block points a Sprite in a particular direction as per the specified value. There are four options in it to rotate a Sprite, which are (90) right, (–90) left, (0) up and (180) down.
- point towards mouse-pointer: This block is used for placing a Sprite towards the pointer of the mouse or towards another Sprite depending upon the center of the costume.

16. Describe the purpose of control blocks with appropriate examples.

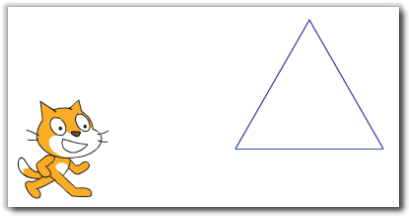
Ans. Control blocks are used for controlling scripts. The color code used for recognizing these blocks is gold. There are eleven control blocks including one hat block, five C blocks, 3 stack blocks and 2 cap blocks. Some examples of control blocks are as follows:

- wait 1 secs: This block stops the execution of scripts for the specified number of seconds.
- create clone of myself: This block creates the clone of a Sprite.
- repeat 10: This block repeats the execution of scripts embedded in it up to the specified number of times.
- forever: This block repeats the scripts an infinite number of times.
- when I start as a clone: This block gets activated in a clone.
- delete this clone: This block is used for deleting the clone.

Application-Oriented Questions

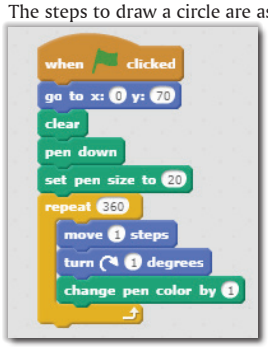
1. Create a Scratch program to draw an equilateral triangle.

Ans. The steps to draw an equilateral triangle are as follows:



2. Create a scratch program to draw a circle.

Ans. The steps to draw a circle are as follows:



3. Open the Scratch program and insert a tree backdrop at the Stage, as shown in the given figure:

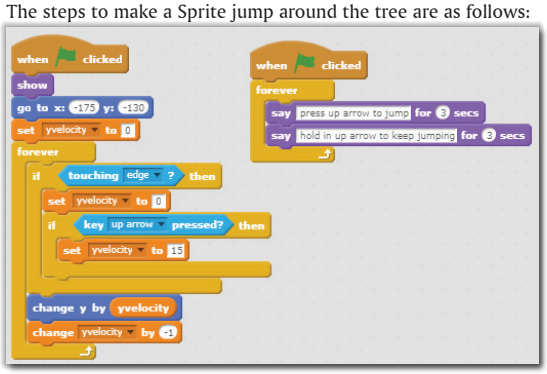
Now, write the script to make a Sprite jump around the tree.

Ans. The steps to insert a tree backdrop at the stage are as follows:

1. *Open* Scratch. The Scratch window opens.
2. *Click* Choose background from library from Sprite list area. A backdrop library opens.
3. *Select* tree background from Backdrop Library window.
4. *Click* Ok.

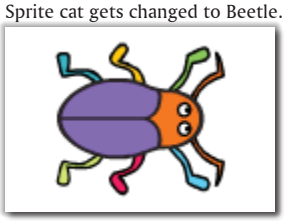
The background of the stage gets changed.

The steps to make a Sprite jump around the tree are as follows:



4. Open the Scratch program and change the Sprite cat with Beetle using the Sprite Library.

Ans. The steps to change the Sprite cat with Beetle using the Sprite Library are as follows:

1. *Open* Scratch. The Scratch window opens.
2. *Click* Choose sprite from library icon. The Sprite Library window appears.
3. *Select* Animals category from the left-hand side.
4. *Choose* a Beetle.
5. *Click* the OK button or double-click the left mouse button to add the Sprite to the Stage.

Sprite cat gets changed to Beetle.