

Unit # 4: PROGRAMMING

Q.No.01: What is programming language? List few programming languages.

Ans: A programming language that consist of a set of keywords and grammatical structure which is understandable by computers. User can write programs in programming languages few examples of programming languages are: Python, C, C++, Java, HTML, Java Script, PHP etc.

Q.No.02: Interpret the meaning of different colors of code blocks in Scratch.

Ans: Blocks are categorized based on their functionality and blocks within the same category share the same color. And the color of script is same of that category, this way it is easier to understand what purpose of a particular code block fulfills.

Q.No.03: How do you create loop in Scratch?

Ans: First of all we select the block category "CONTROLS" then choose one the following block type according to requirements:

1. Repeat
2. Repeat until
3. Repeat forever

Now drag which ever command block you want to repeat and drag them inside the loop block.

Q.No.04: List down the components of Scratch interface.

Ans: Following are the components of Scratch:

1. Block category.
2. Block palette.
3. Programming area.
4. Sprite.
5. Sprite properties.
6. Background.
7. Stage.
8. Tutorials.

Q.No.05: What is the output of the following block of code?

Ans: When user clicks the sprite:

Sprite will keep iterating following actions for infinite times.

1. The sprite will first move to (-10,-10) coordinates.
2. Then it will change the position from (-10,-10) coordinates to (10,10) within 5 seconds.
3. Sprite will delay for half second on each iteration.

MCQs

1. The Computer program interacts with user via **Input**.
2. Background is selected from **Bottom right corner** of the screen.
3. To move the Pico sprite 10 spaces to the left from top right corner of the stage, **change x by -10** block will be used.
4. Program is written at **Implementation time**.
5. **Programming area** is the actual working space where you can drag and drop code blocks that are to be executed.
6. Height and width of Scratch stage is **360 pixels** and **480 pixels** respectively.
7. While sprite is at the center of stage what is the value of x and y coordinates **(0, 0)** respectively.
8. Position of sprite can be changed via code with **go to x:y** and **go to random**.
9. Code block is also called **command**.
10. Output can be seen in **stage**.
11. By default x and y value of sprite is **0,0**.
12. Sprite is a **character**.
13. Can we change sprite? **Yes**.
14. To find and remove error is called **debugging**.
15. Value of variable can be **changed**.
16. Value of constant **can't** be changed.
17. Variable can hold **data**.
18. Increment means **increase** value.
19. Decrement means **decrease** value.
20. Loop/iteration/repetition means to repeat **again and again**.
21. Type of loops are **Repeat, Repeat until** and **Repeat forever**.
22. If we want to repeat commands for 5 numbers of times which loop is suitable? **Repeat**