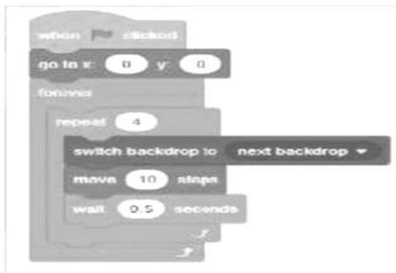
Unit 4: Programming

Short Response Questions:

Q.1: for the following code block a sprite will turn to 30 degree. How many clicks are required for sprite to complete a full cycle?

Ans: 12 clicks are required for a sprite to complete a full cycle.

Q.2: what is difference in outputs of the following code-block, having 4 backdrops?



Ans: (a) When the flag is clicked, the code will place the sprite at the coordinate (0,0) of the stage and perform the following actions forever:

i. Switches to next backdrops and wait for 0.5 seconds. This step will be repeatedly performed for 4 times on each iteration of forever loop.
ii. The sprite moves 10 steps.

(b) When the flag is clicked, the code will place the sprite at the coordinate (0,0) of the stage and perform the following action forever:

i. Switches to next backdrops, the sprite moves 10 steps and wait for 0.5 seconds. This step will be repeatedly performed for 4 times on each iteration of forever loop.

Q.4: Take a 4-digits number as input for a year and check if the year is a leap year or not. Display your output as: "The year 1979 is not a leap year" or "The year 2020 is a Leap year".

Ans:

```
1.  Year = eval ( input ("Enter a year in 4-digits") )
2.  if (Year % 4 == 0):
3.          print(" The year ", Year, " is a LEAP year")
4.  else:
5.          print ( "The year ", Year, " is not a LEAP year")
```

Q.5: Take length and width as input form the user for a quadrilateral and check if it is a square or rectangle.

Ans:

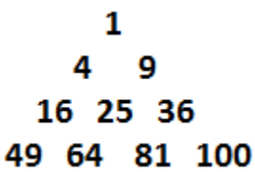
```
1.  Length = eval ( input("Enter the length of quadrilateral") )
2.  Width = eval ( input("Enter the width of quadrilateral") )
3.  if (Length = = Width):
4.          print("The Quadrilateral is Square")
5.  else:
6.          print("The Quadrilateral is Rectangle")
```

Q.6: Write a program in Python for the following output (Print a triangle).

Ans:

```
1.  For i in range (5):
2.      for space in range  (5-i) :
3.          print(end=" ")
4.      for j in range (i+1) :
5.          print("* ", end="")
6.      print()
```

Q.7: Write a program in python which displays square of the numbers and prints in the form of a triangle, as shown below:



Ans:

```
1.  num = 1
2.  For i in range (4):
3.      for space in range ( 4-i ):
4.          print(end=" ")
5.      for j in range (i+1):
6.          print(num * num ,  end=" ")
7.          num = num + 1
8.      print()
```