



SESSION - 2

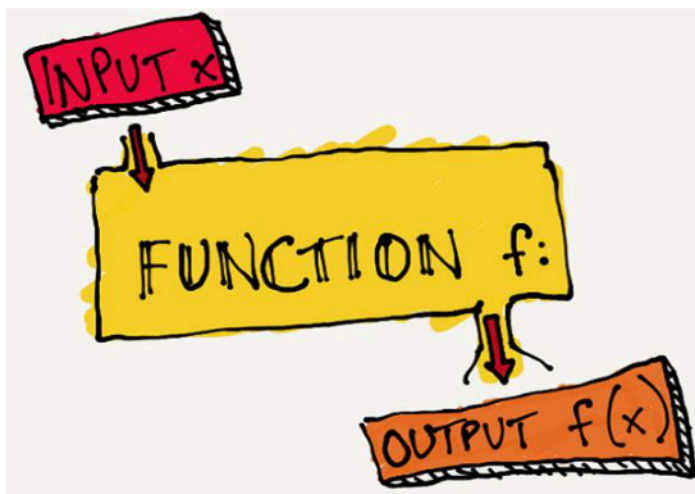
FUNCTIONS



Learning Outcomes:

- **Remember:** The students will recall about previous concepts - libraries .
- **Understand:** They will focus on understanding what is a function , how to create a function and how to call a function .
- **Apply:** They will learn to apply the concept of Functions on multiple programs .
- **Analyze:** They will check their understanding by developing a code .
- **Create:** They will create the code in EduBlocks

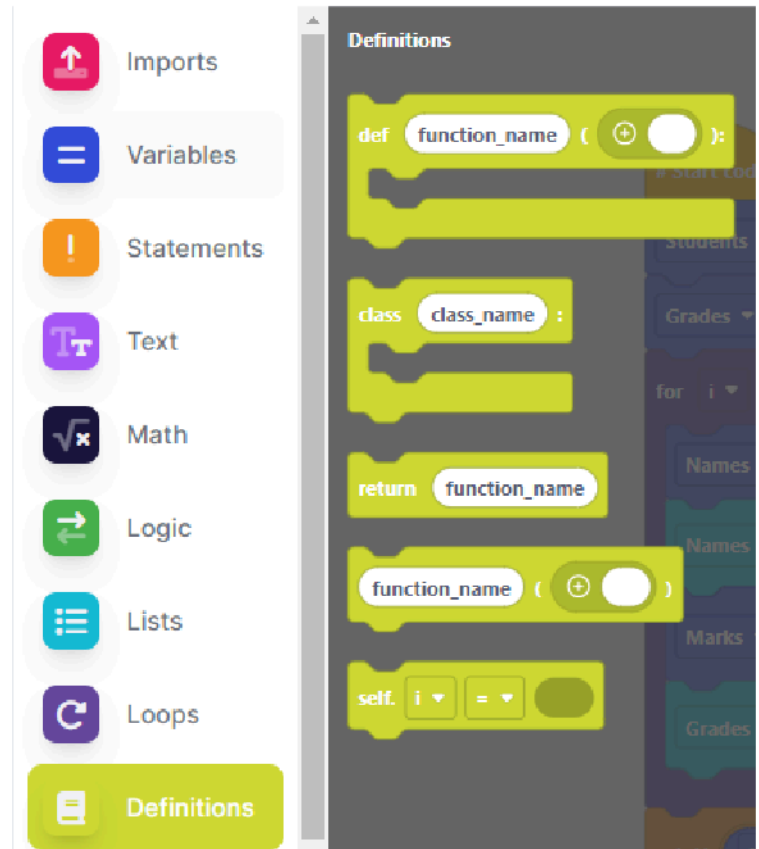
- A function is a block of organized, reusable code that you can use over and over again, rather than writing it out multiple times.
- Functions enable programmers to break down or decompose a problem into smaller parts, each of which performs a particular task.
- A function is a block of code which only runs when it is called.



STEPS USING FOR FUNCTIONS

1. Creating/Defining a function

In Python, a function is defined using the 'def' keyword:



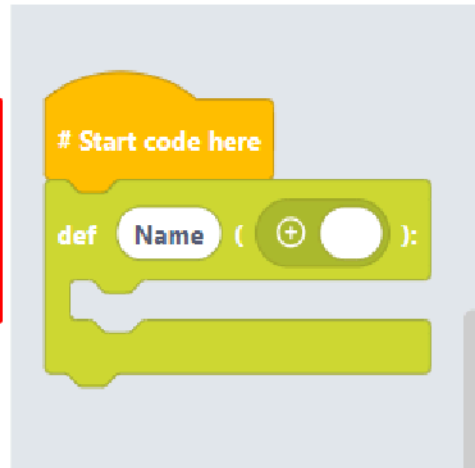
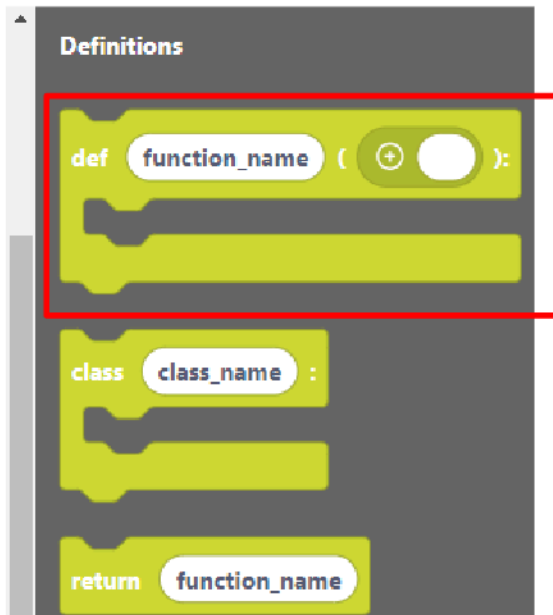
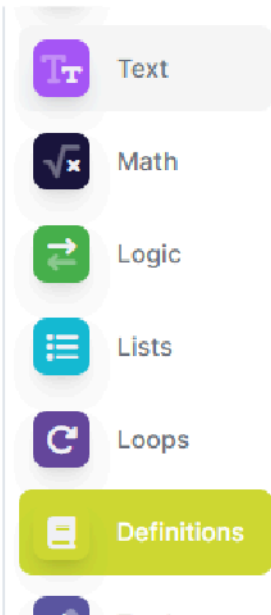
Remember & Understanding

Apply & Create

TASK 01:-

**</> WRITE A CODE TO PRINT YOUR NAMES 10
TIMES USING FUNCTIONS**

Program Step 1:-



Code

```
1 #Start code here
2 def Name():
3     pass
4
```

1. Create a function with 'name'

Program Step 1:-

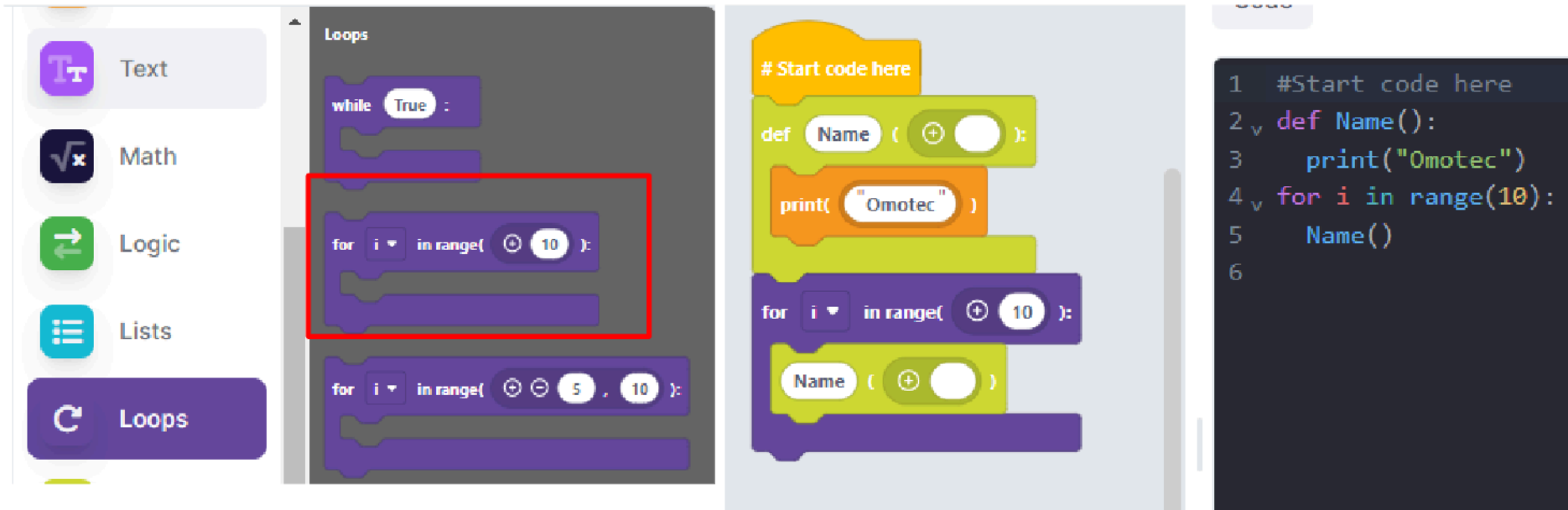
The screenshot displays a programming environment with three main sections:

- Left Panel (Toolbox):** Contains icons for Imports (upward arrow), Variables (equals sign), Statements (exclamation mark), and Text (T icon).
- Output Panel:** Shows the execution results. The first line, `print("Hello World")`, is highlighted with a red rectangle. The second line shows `print(1)`.
- Code Editor:** Displays the Python code corresponding to the blocks. It starts with a yellow block `# Start code here`, followed by a green block defining a function `def Name ()::` with a plus sign icon. Inside the function, there is an orange block `print("Omotec")`.
- Code Window:** Shows the raw Python code:

```
1 #Start code here
2 v def Name():
3     print("Omotec")
4
```

2.inside function print your name

Program Step 1:-



The image displays three panels illustrating the implementation of a program step:

- Left Panel (Block-based Editor):** Shows a sidebar with categories: Text, Math, Logic, Lists, and Loops. The Loops category is selected. In the main workspace, a 'while True' loop is shown. A 'for i in range(10)' loop is highlighted with a red rectangle. Below it, another 'for i in range(5, 10)' loop is visible.
- Middle Panel (Visual Programming):** Shows a sequence of blocks. It starts with a comment '# Start code here', followed by a function definition block 'def Name ():', then a 'print("Omotech")' block, and finally a 'for i in range(10):' loop containing a 'Name ()' function call block.
- Right Panel (Text-based Code):** Shows the equivalent text-based code:

```
1 #Start code here
2 def Name():
3     print("Omotech")
4 for i in range(10):
5     Name()
6
```

3.use loop for 10 times, to call function and call the functions

Output

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Omotec

Omotec

Omotec

Omotec

Omotec

Omotec

Omotec

Omotec

Omotec

Omotec

Apply & Create

TASK 02:-

**</> CREATE A FUNCTION TO TAKE USER INPUT
THEIR NAME AND CONTACT NUMBER AND
DISPLAY THE FUNCTION**

Program

1. Create 2 variables to take user name and number
2. Create a function - 'data'
3. Call the function with argument (name and number)

```
# Start code here

def Data ( + - x , y ) :

    print( "Your Name is:" + Names + ", Your Number is :" + str( NUMBER ) )

Names = input( "Enter your name?" )
NUMBER = int( + input( "Enter your number" ) )

Data ( + - Names , NUMBER )
```

Syntax

```

1  #Start code here
2  v def Data(x, y):
3      print("Your Name is:" + Names + ",Your Number is :" + str(NUMBER))
4      Names = input("Enter your name?")
5      NUMBER = int(input("Enter your number"))
6      Data(Names, NUMBER)
7

```

Output

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Enter your name? sfdgdgh

Enter your number 5676859

Your Name is:sfdgdgh,Your Number is :5676859

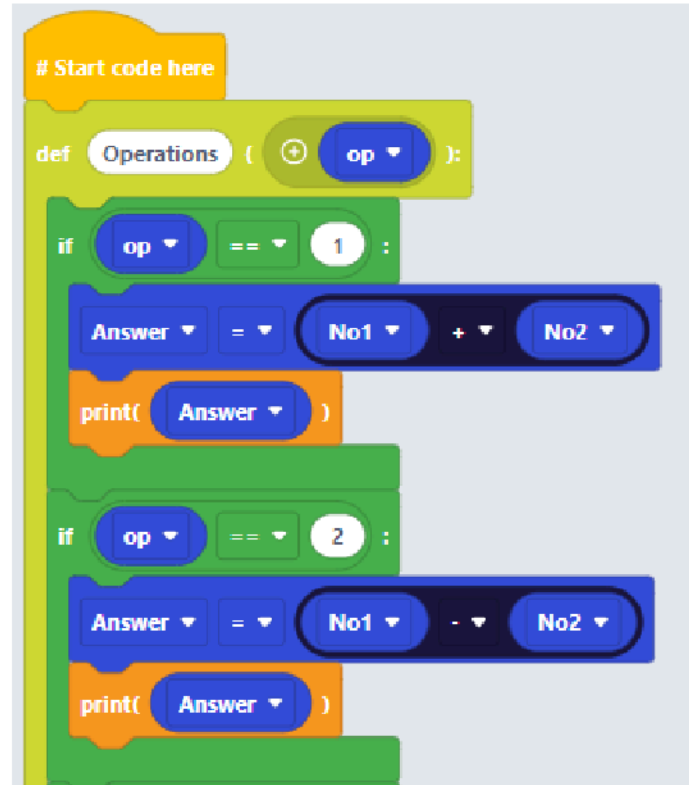
Apply & Create

TASK 03:-

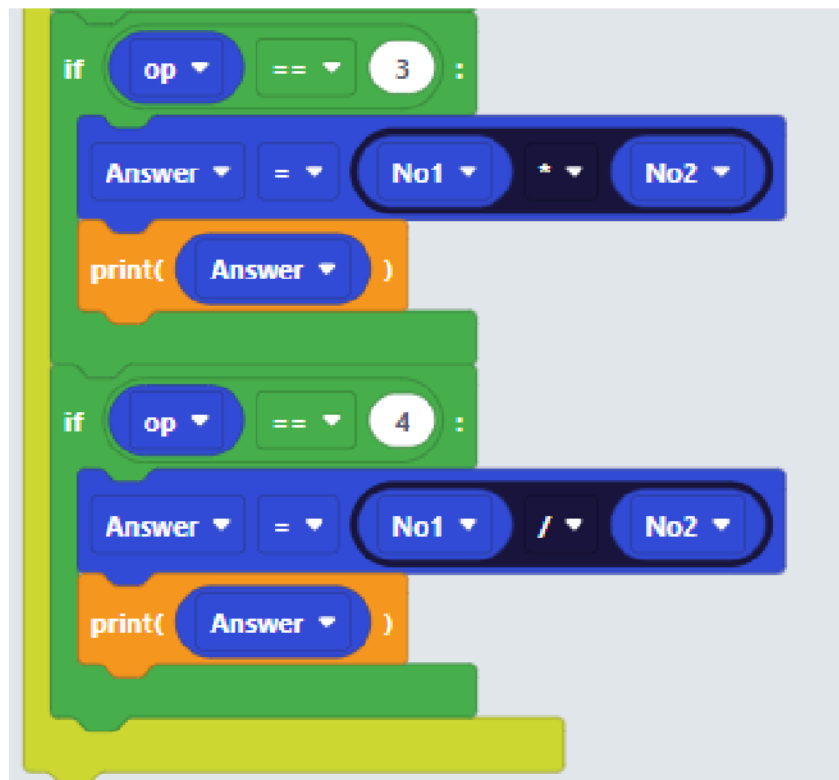
**</> WRITE A PROGRAM TO DO ARITHMETIC
OPERATIONS USING FUNCTIONS**

Program

1. Create a function with an argument
2. Inside function compare the operator chosen by the user, accordingly perform the action.

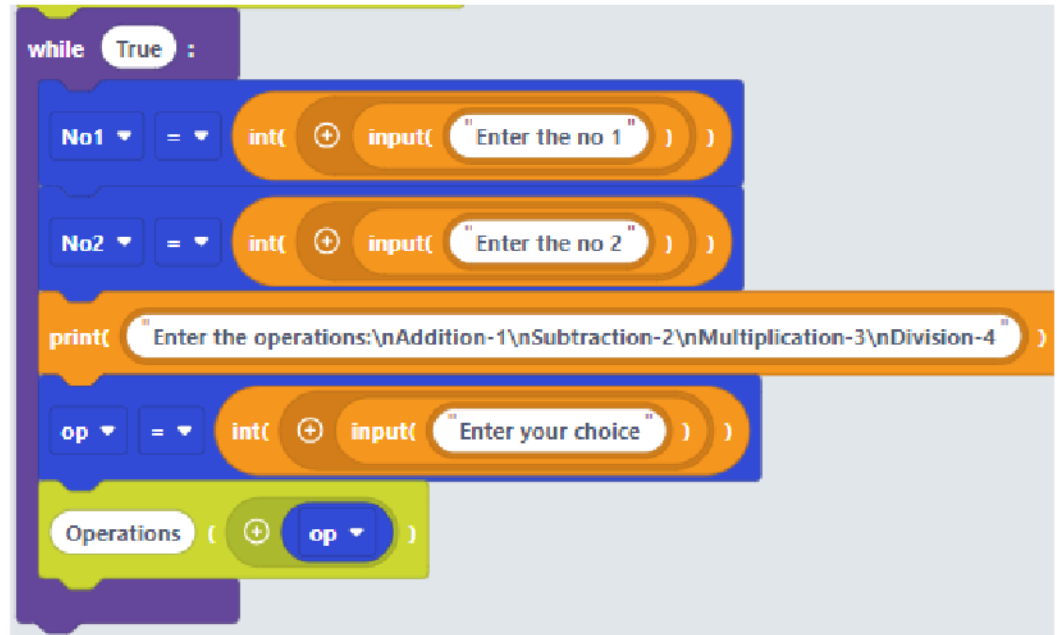


Program



Program

- Create 3 variables:
 - No1 and No2- to store numbers
 - Op- to store the operation
- For all 3 variables, ask user to enter the values
- Call the operation function



Full Code

Start code here

```
def Operations ( op ):
```

```
    if op == 1 :
```

```
        Answer = No1 + No2
```

```
    print( Answer )
```

```
    if op == 2 :
```

```
        Answer = No1 - No2
```

```
    print( Answer )
```

```
    if op == 3 :
```

```
        Answer = No1 * No2
```

```
    print( Answer )
```



```
    if op == 4 :
```

```
        Answer = No1 / No2
```

```
    print( Answer )
```

```
while True :
```

```
    No1 = int( input( "Enter the no 1" ) )
```

```
    No2 = int( input( "Enter the no 2" ) )
```

```
    print( "Enter the operations:\nAddition-1\nSubtraction-2\nMultiplication-3\nDivision-4" )
```

```
    op = int( input( "Enter your choice" ) )
```

```
    Operations ( op )
```

Syntax

```

1  #Start code here
2  def Operations(op):
3      if op == 1:
4          Answer = No1 + No2
5          print(Answer)
6      if op == 2:
7          Answer = No1 - No2
8          print(Answer)
9      if op == 3:
10         Answer = No1 * No2
11         print(Answer)
12     if op == 4:
13         Answer = No1 / No2
14         print(Answer)
15     while True:
16         No1 = int(input("Enter the no 1"))
17         No2 = int(input("Enter the no 2"))
18         print("Enter the operations:\nAddition-1\nSubtraction-2\nMultiplication-3\nDivision-4")
19         op = int(input("Enter your choice"))
20         Operations(op)

```

Output

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Enter the no 1 45

Enter the no 2 56

Enter the operations:

Addition-1

Subtraction-2

Multiplication-3

Division-4

Enter your choice 1

101

Enter the no 1 6

Enter the no 2 8

Enter the operations:

Addition-1

Subtraction-2

Multiplication-3

Division-4

Enter your choice 3

48

Enter the no 1

ACTIVITY SHEETS

Question 1:-

What is a Function?

- A. block of code which only runs when it is called.
- B. block of code which runs when code starts
- C. block of code which runs forever
- D. none of the above

Question 2:-

Which keyword we use to create a function?

- A. `def func_name():`
- B. `c. def func_name();`
- C. `def ():`
- D. `d. def ();`

Question 3:

Find the error in the below code?

```
def my_function():
    print(Hello from a function)
my_function()
```


Question 4:-

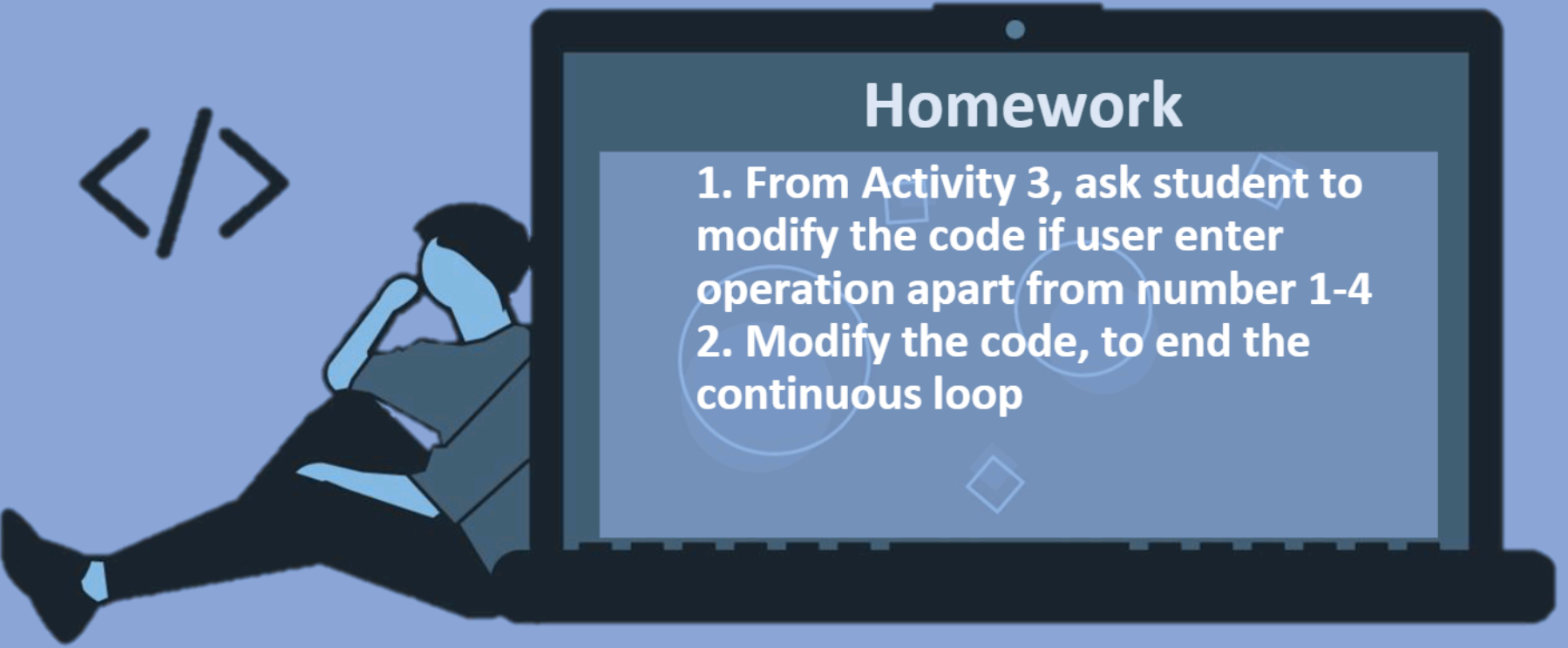
What is an argument in a function?

- A. Information can be passed into functions
- B. data can be passed into functions
- C. Numeric Data
- D. None of the above

Question 5:

Which instruction we use in a function to get the value out?
?

- A. Pass
- B. Break
- C. Return
- D. None of the above



Homework

1. From Activity 3, ask student to modify the code if user enter operation apart from number 1-4
2. Modify the code, to end the continuous loop