SESSION - 2
FUNCTIONS

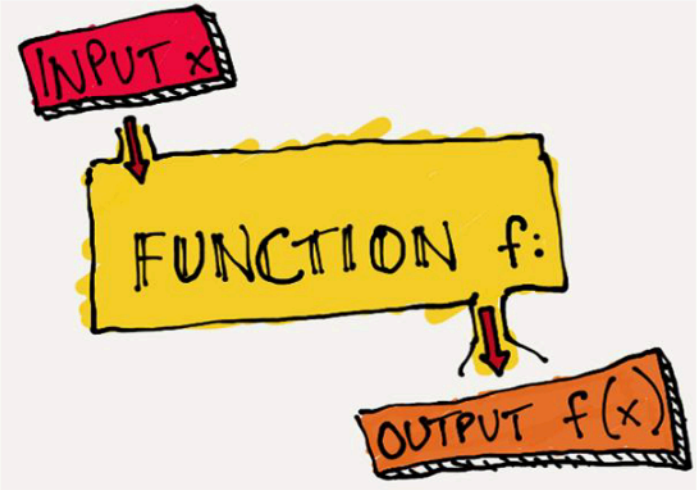
Learning Outcomes:

- **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

Remember & Understanding

FUNCTIONS

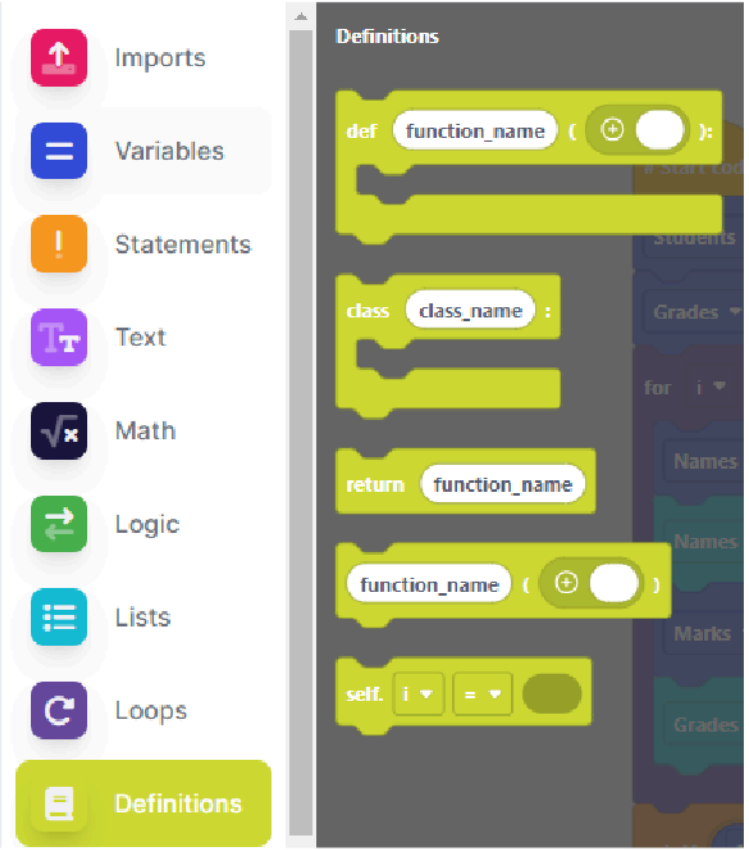
- A function is a block of organized, reusable code that you can use over and over again, rather than writing it out multiple times.
- Functions enable programmers to break down or decompose a problem into smaller parts, each of which performs a particular task.
- A function is a block of code which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



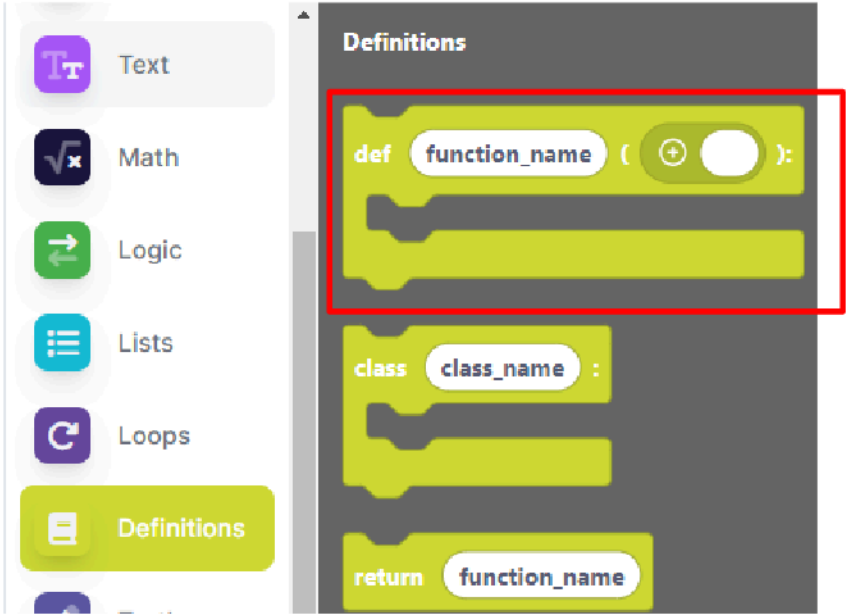
Remember & Understanding

Apply & Create

TASK 01:-

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

Program Step 1:-

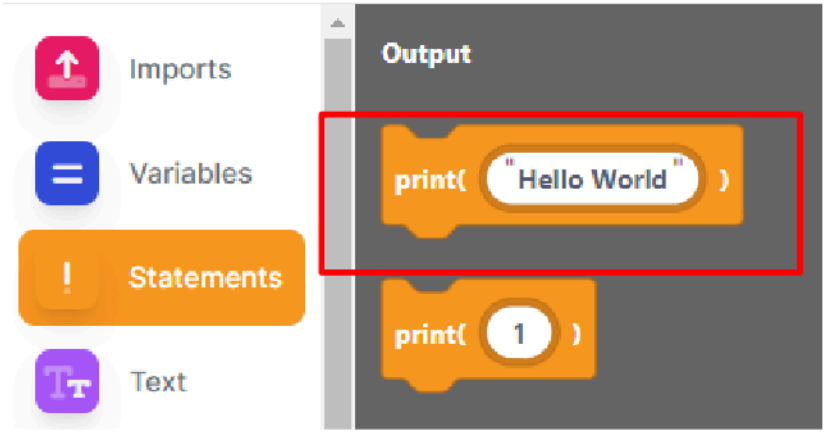


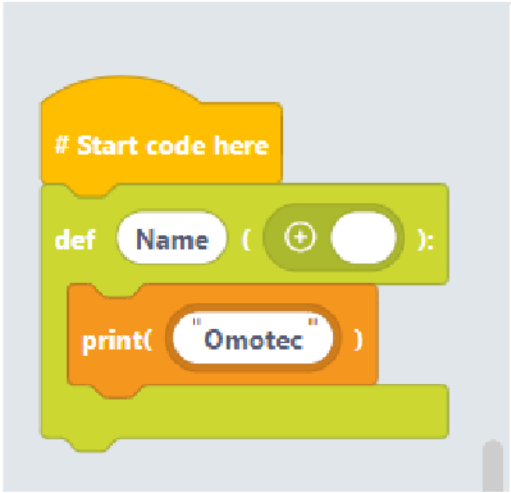
Code

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

1.Create a function with ‘name’

Program Step 1:-



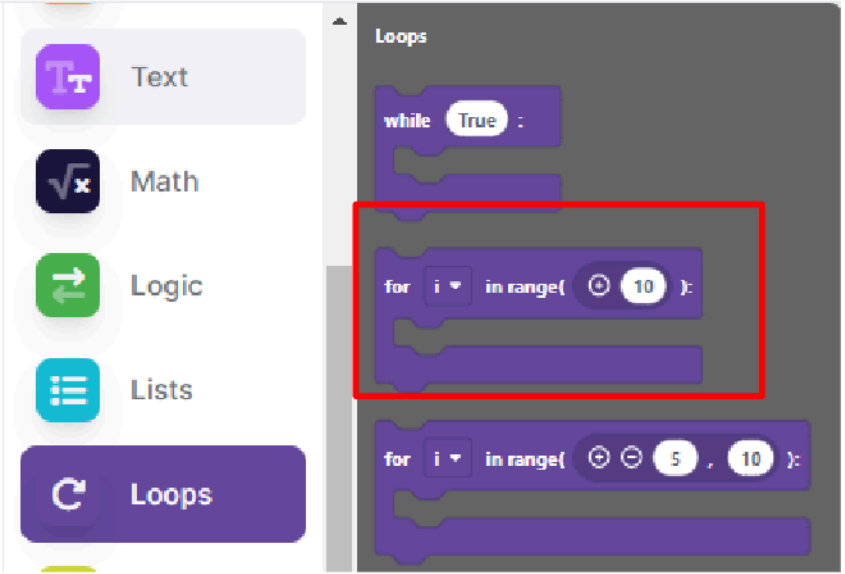


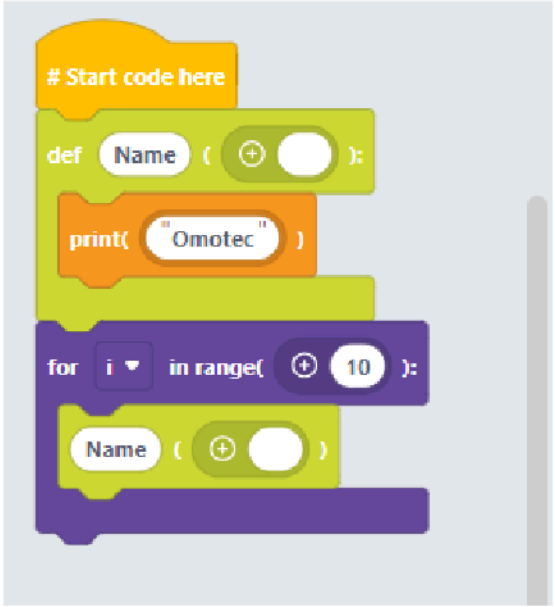
Code

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

2.inside function print your name

Program Step 1:-






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

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

Output


Powered by trinket
Omotec
Omotec
Omotec
Omotec
Omotec
Omotec
Omotec
Omotec
Omotec
Omotec

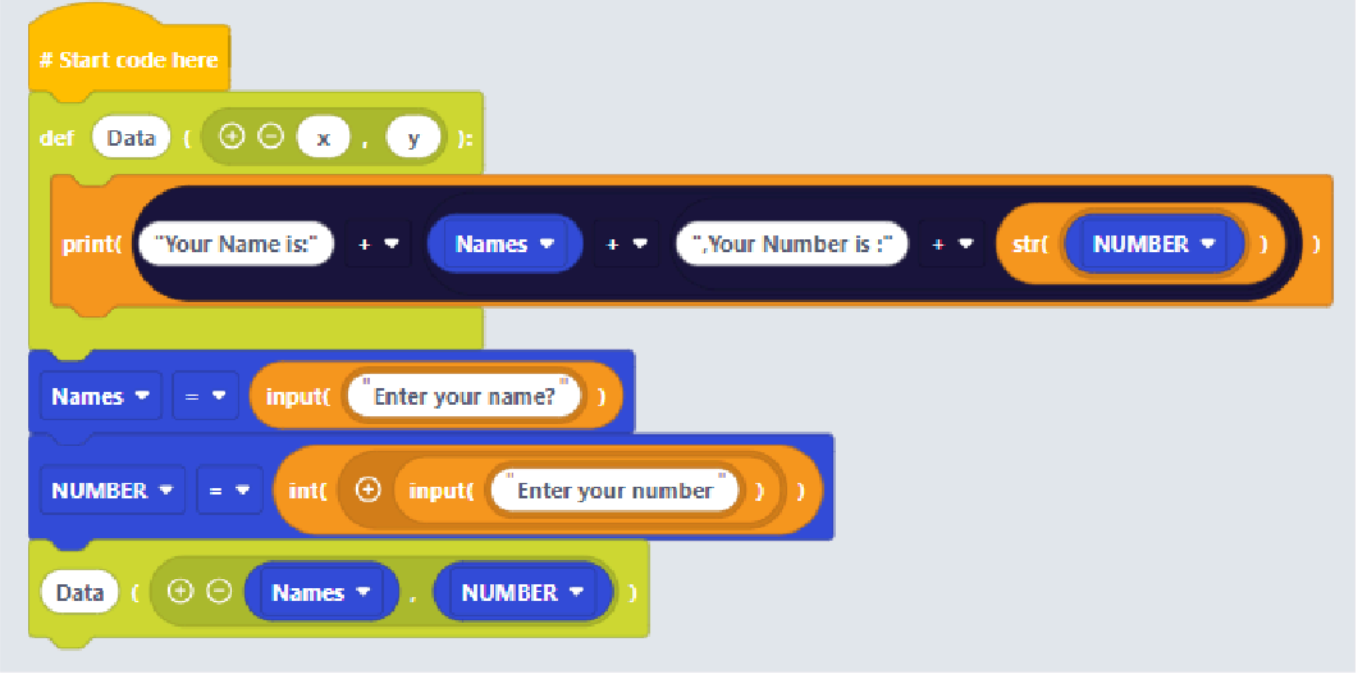
Apply & Create

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)

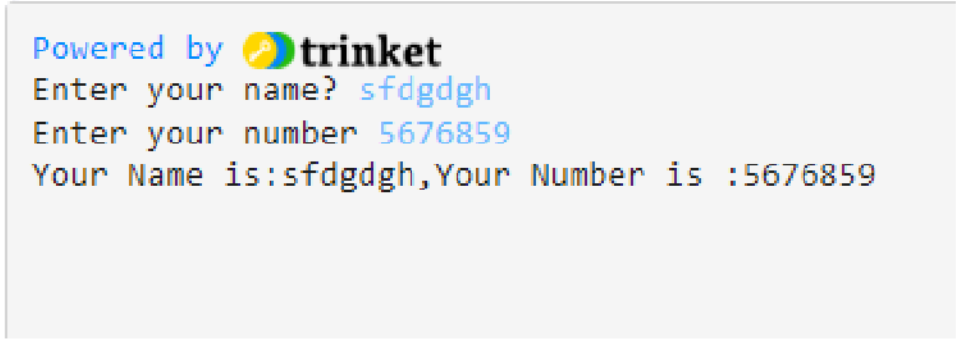


Syntax

```
#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)

```

Output


Powered by trinket
Enter your name? sfdgdgh
Enter your number 5676859
Your Name is:sfdgdgh,Your Number is :5676859

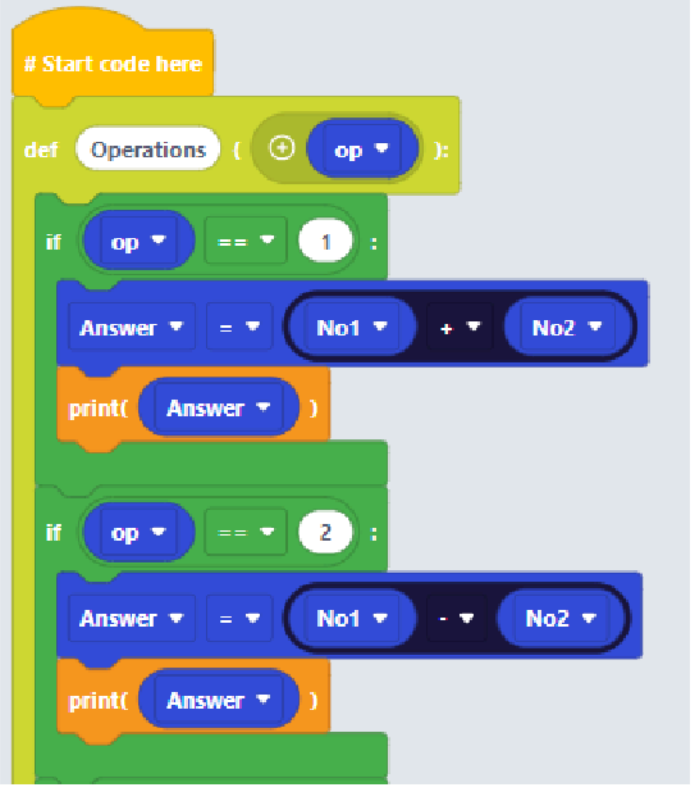
Apply & Create

TASK 03:-

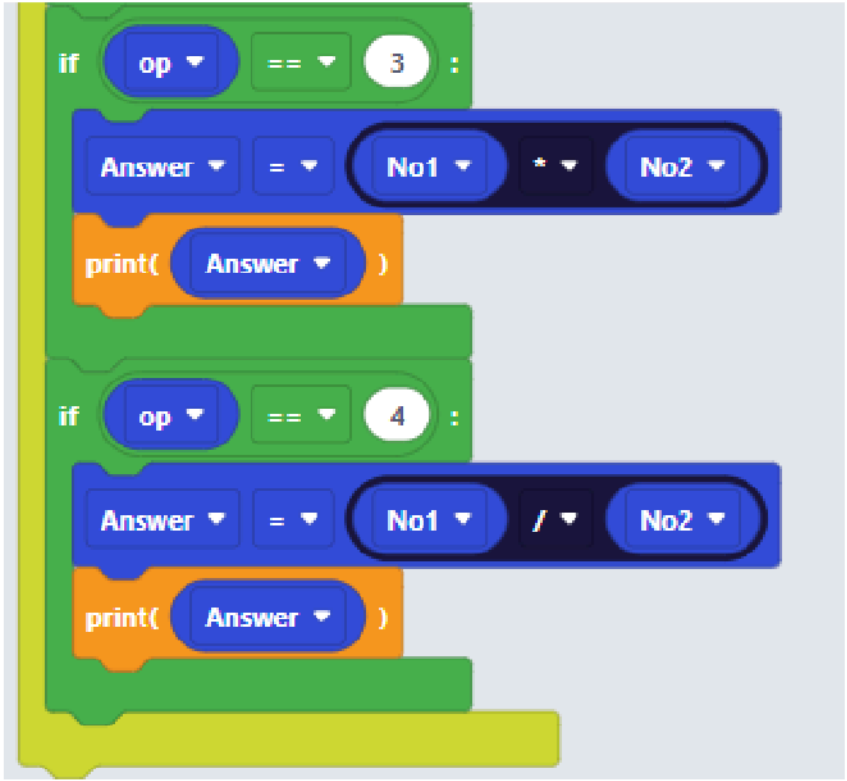
</> WRITE A PROGRAM TO DO ARITHMETIC OPERATIONS USING FUNCTIONS

Program

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

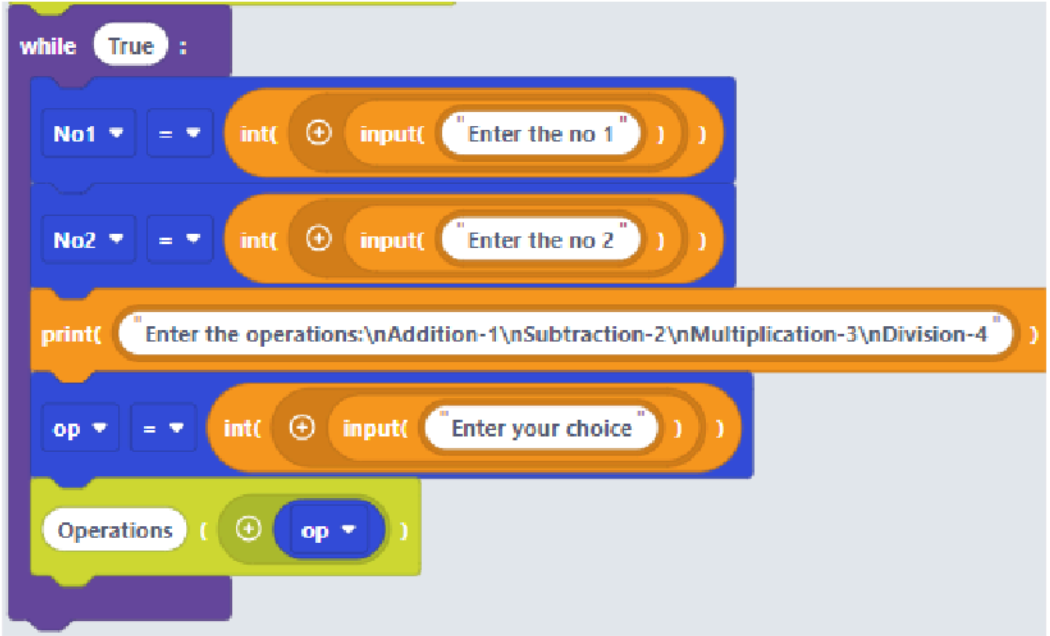


Program

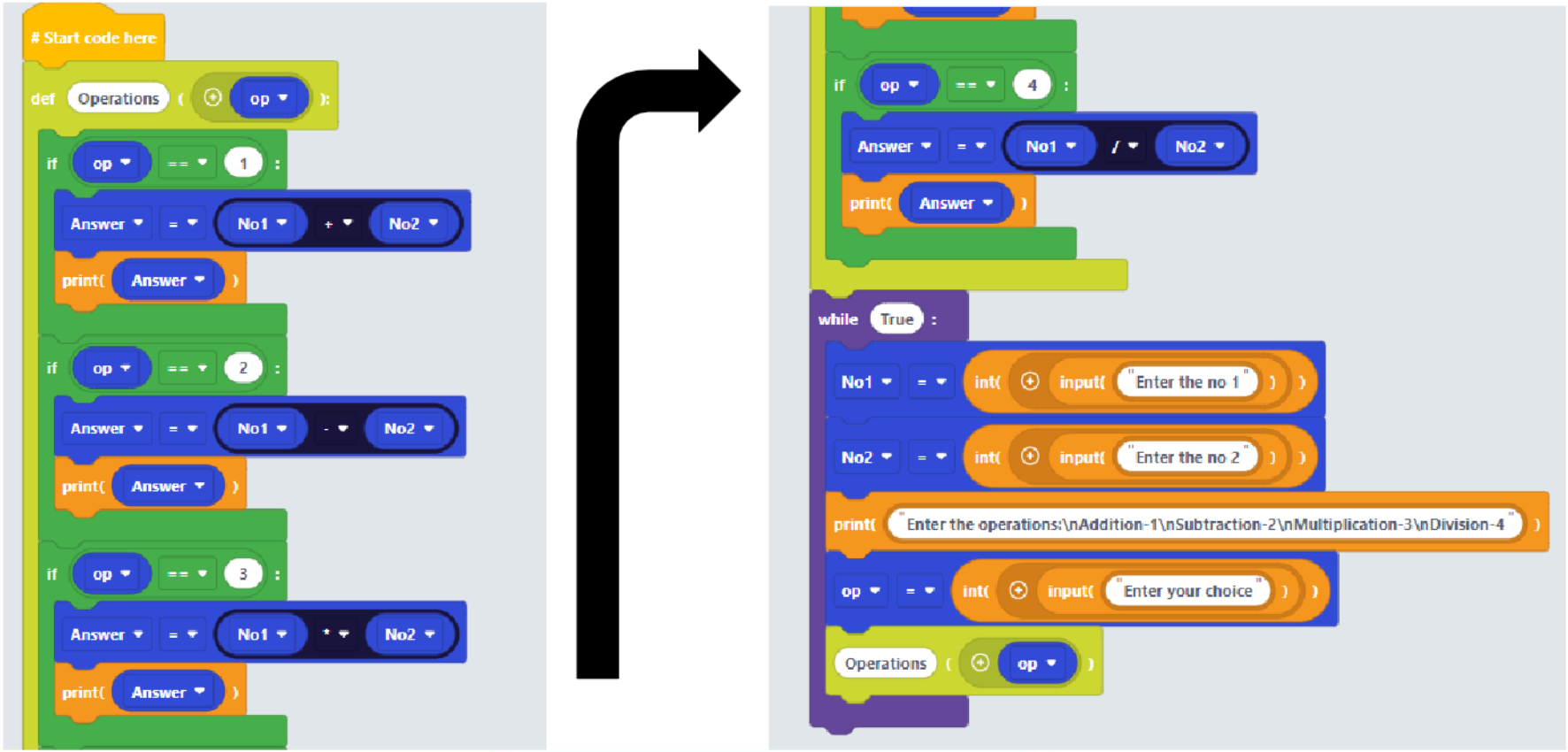

if op == 3 :
Answer = No1 * No2
print(Answer)
if op == 4 :
Answer = No1 / No2
print(Answer)

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

```
#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)
```

Output

```
Powered by trinket
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()
```

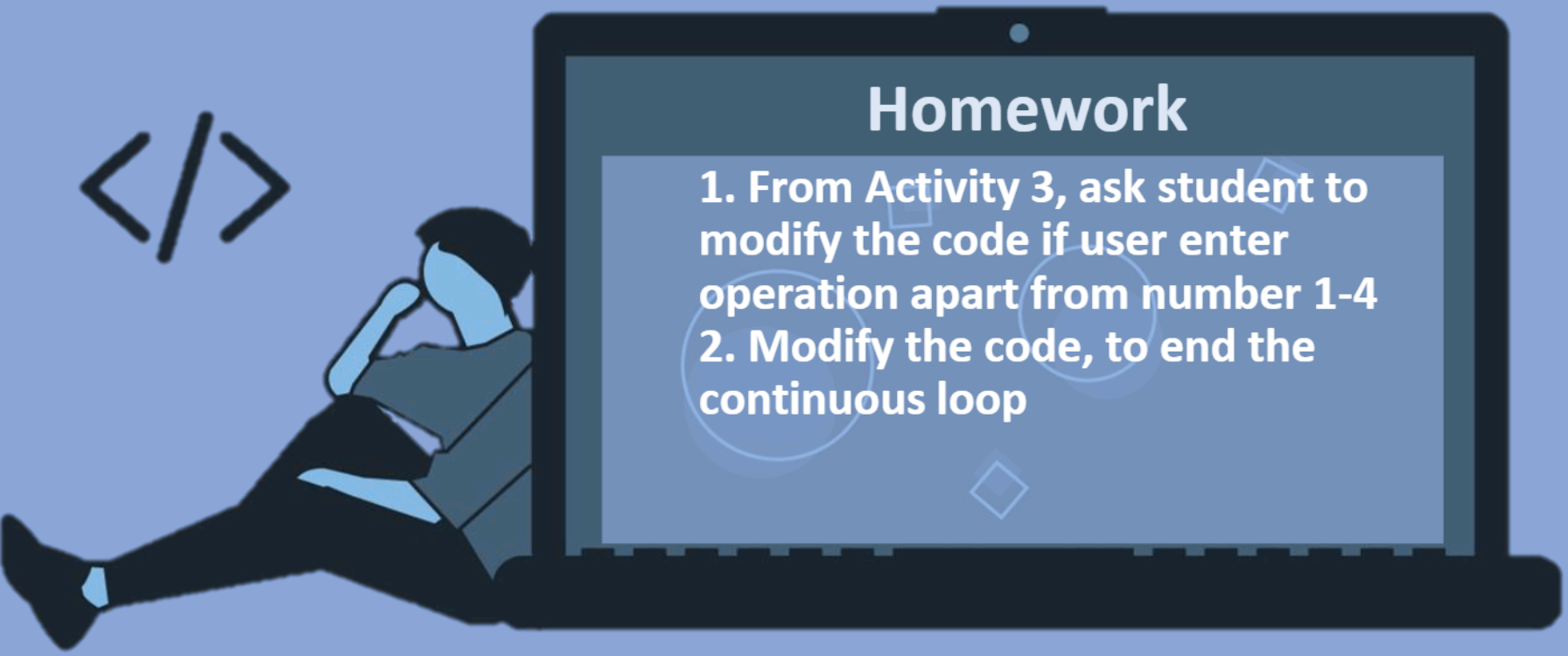
Question 4:-

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