**ASSIGNMENT 2**

1. Calculate the average of three numbers. If average is greater than or equal to 75, print "Pass", else print "Fail".

Ans:

**Print “Fail”**

**Print ”Pass”**

**Is d>75 ?**

**d=(a+b+c)/3**

**INPUT a,b,c**

YES

NO

1. Calculate and print the factorial of a number

Ans:

NO

YES

**DISPLAY C**

**Is a>0 ?**

**C=1**

**C=C\*a  
a=a-1**

**INPUT a**

1. Accept the lengths of three sides of a triangle as input from the user. Based on the input, print if the given triangle is "Equilateral", "Isosceles" or "Scalene".

Ans:

**PRINT “Scalene Triangle”**

**PRINT “Isosceles Triangle”**

**PRINT “Equilateral Triangle”**

YES

YES

NO

NO

NO

**Is b=c ?**

**Is b=c ?**

YES

**Is a=b?**

**INPUT a,b,c**

1. Accept the values of principal amount, rate of interest and number of years as an input from the user. Calculate and print the simple interest.

Ans:

**DISPLAY S.I.**

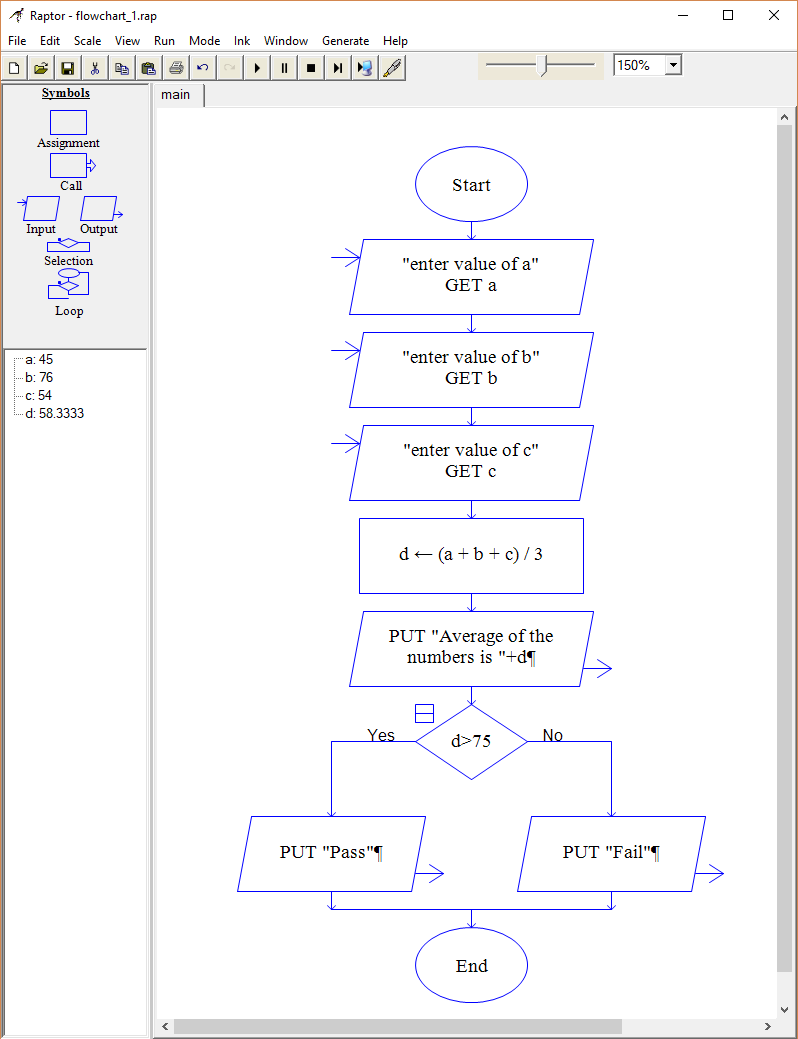
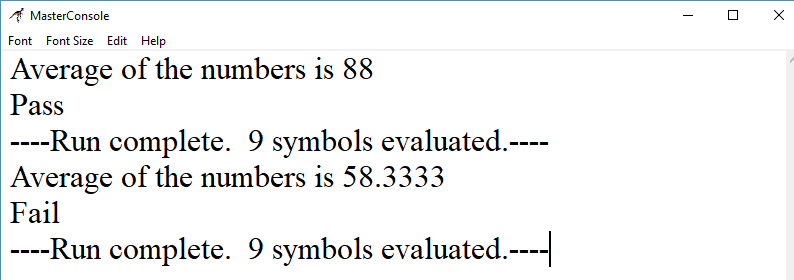
**S.I.=(P\*R\*T)/100**

**INPUT P,R,T**

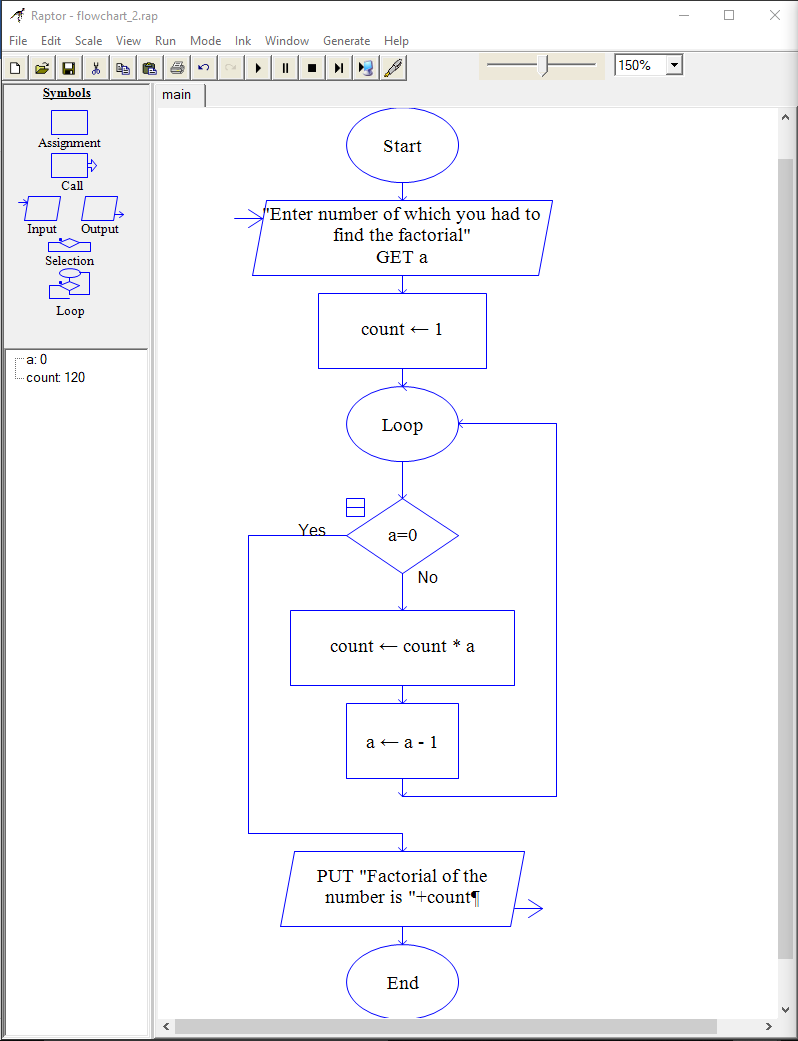
**ASSIGNMENT 3**

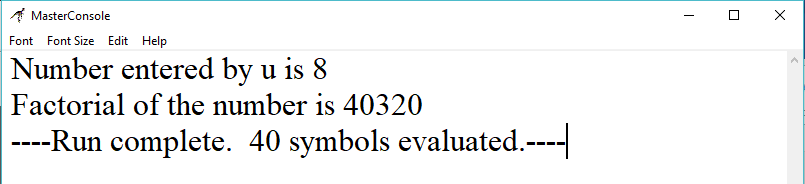
In previous section, you have created the ﬂowcharts for the following problems. Now, use Raptor tool to create and execute ﬂowcharts for these problems. Observe the output for diﬀerent set of inputs.

1. Calculate the average of three numbers. If average is greater than or equal to 75, print "Pass", else print "Fail".

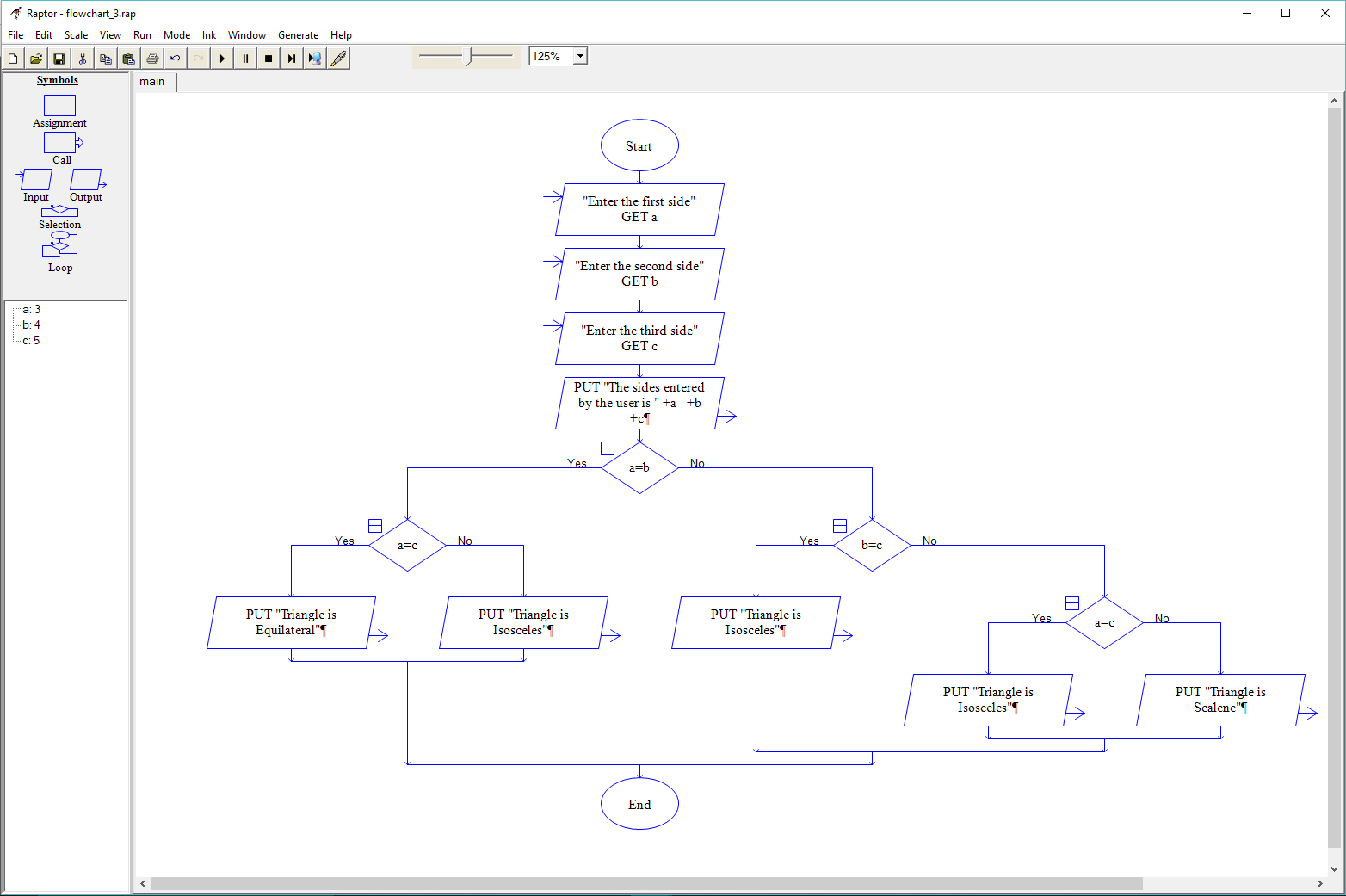
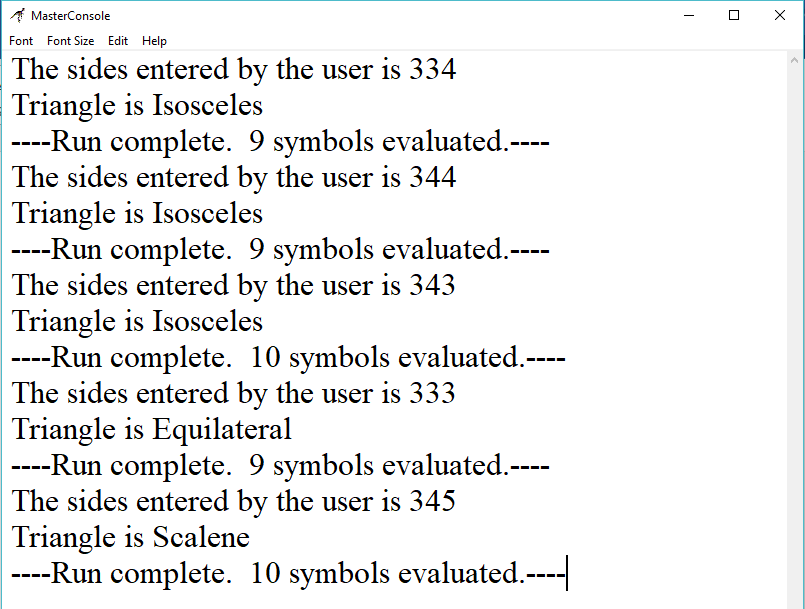
 

1. Calculate and print the factorial of a number

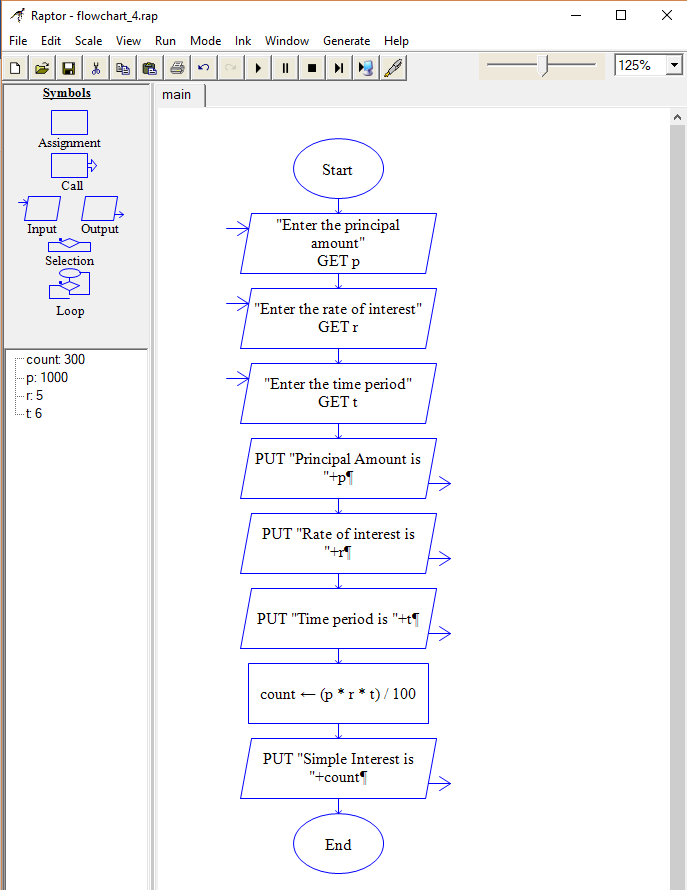


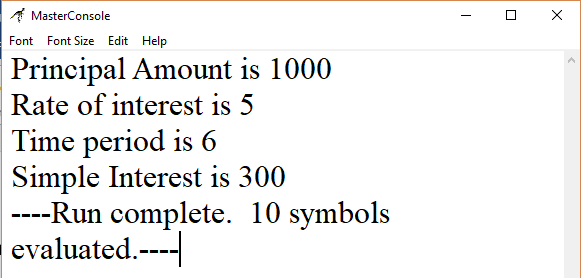


1. Accept the lengths of three sides of a triangle as input from the user. Based on the input, print if the given triangle is "Equilateral", "Isosceles" or "Scalene".

1. Accept the values of principal amount, rate of interest and number of years as an input from the user. Calculate and print the simple interest.





**ASSIGNMENT 4**

Q1: Write Pseudo Code:

1. To check whether a given number is even or odd.

Ans: **Step 1:** Start

**Step 2:** [Take Input] Read: N

**Step 3:** Check: If N%2 == 0 Then

Print : N is an Even Number.

Else

Print : N is an Odd Number.

**Step 4:** Exit

1. To ﬁnd factorial of a given number.

Ans: To calculate n!, given n

**Step 1**: Input integer number n

**Step 2**: If n< 0 , Output “error”, stop,

Else, Initialise Product to 1

**Step 3**: If n=0 or n=1, Output Product,Stop

Else, Initialise Multiplier to 2

**Step 4**: Redefine Product=Product\* Multiplier

**Step 5**: Increment Multiplier by 1

**Step 6**: If Multiplier is less than or equal to n , go to 6

Else, Output Product

1. To calculate ‘x’ to the power of ‘n’ using a while loop.

Ans: **Step 1:** Input integer number n and x.

**Step 2:** Initialize a function **double** pow(**double** x, **int** n) {

**Step 3: if** (n < 0) **return** pow(1.0 / x, -n)

**Step 4**: **if** (n == 0) **return** 1.0

**Step 5:** **if** (n == 1) **return** x

**Step 6:** **if** (n % 2 == 0) **return** pow(x \* x, n / 2)

**Step 7:** Default it will **return** x \* pow(x \* x, (n - 1) / 2)

1. To print the multiples of 3 between 1 to 20.

Ans**: Step 1:** Initialize a variable i and j. Make j static with a value equal to 3.

**Step 2:** Initialize a variable n=20 or define a limit variable.

**Step 3:** Design a for loop as for(i=1;i<=n/3;i++)

**Step 4:** Return 3\*i

**Step 5:** Print the values received by the function and close the program

**ASSIGNMENT 5**

Open the Python IDLE and execute the following commands. Observe the output.

1. 10 + 15

“It will display the sum of 10 and 15 that is 25 after the clicking of enter key.”

1. Print(“Hello World”)

“It will print hello world after we press enter key”

1. 45-34

“It will give us difference of 45 and 34 after we press enter key.”

1. 8\*2

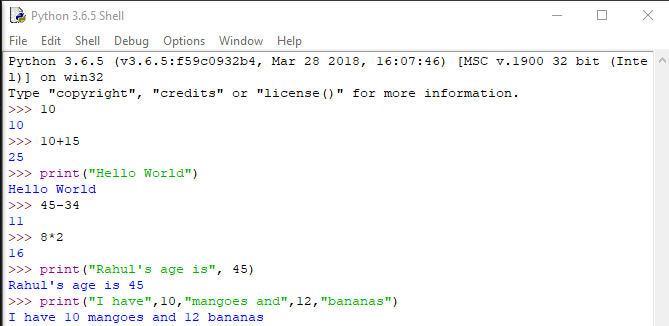
“It will display the products of 8 and 2 after we press enter key”

1. Print(“Rahul’s age is”,45)

It will give us the output as follows: “Rahul’s age is 45”

1. Print(“I have”,10,”mangoes and”,12,”bananas”)

I will give us the output as follows: “I have 10 mangoes and 12 bananas”



**ASSIGNMENT 6**

Open Python IDLE and execute the following commands. Observe the output.

1. emp\_number = 1233

Assign the value to the emp\_number variable.

1. print(“Emoployee Number:”, emp\_number)

It will print the output as follows:

Employee Number: 1233

1. emp\_salary = 16745.50

It will assign value to “emp\_salary” variable.

1. emp\_name = “Jerry Squaris”

It will assign string value to the “emp\_name” variable.

1. print(“Employee Salary and Name:”,emp\_salary,emp\_number)

It will print the output as follows:

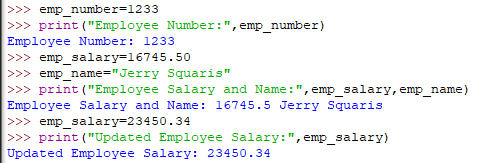
Employee Salary and Name: 16745.5 Jerry Squaris

1. emp\_salary = 23450.34

It will assign new value to same “emp\_salary” variable.

1. print(“Upadted Employee Salary:”,emp\_salary)

It will print the output as follows:  
“Updated Employee Salary: 23450.34”



**ASSIGNMENT 7**

Execute the following Python statements in IDLE and observe the output:

1. customer\_id=101

Assign the value to a variable named as customer\_id.

1. type(customer\_id)

Give the datatype of the variable taken as an argument.

1. customer\_name="John"

Assign the value to a variable named as customer\_name.

1. type(customer\_name)

Give the datatype of the variable taken as an argument.

1. bill\_amount=675.45

Assign the value to a variable named as bill\_amount.

1. type(bill\_amount)

Give the datatype of the variable taken as an argument.

1. x=5.3+0.9j

Assign the value to a variable named as x

1. type(x)

Give the datatype of the variable taken as an argument.

1. print(customer\_id,customer\_name,bill\_amount)

It will give output as follows:

675.45