control flow loops

if statement

```
age = 18
if age >= 18:
    print("you are eligible to vote")

you are eligible to vote
```

if else statement

```
num = int(input("enter number:"))
if num % 2 == 0:
    print("even")
else:
    print("odd")
enter number:7
odd
```

if elif else statement

```
marks = int(input("enter marks:"))
if marks >= 80:
    print("grade : A")
elif marks >= 75:
    print("grade : B")
elif marks >= 50:
    print("grade : C")
else:
    print("grade : F")
enter marks:65
grade : C
```

FOR LOOP

```
for i in range (5):
    print("iteration:",i)

iteration: 0
iteration: 1
iteration: 2
iteration: 3
iteration: 4

for i in range (5,10):
    print("iteration:",i)
```

```
iteration: 5
iteration: 6
iteration: 7
iteration: 8
iteration: 9

for i in range (5,50,10):
   print("iteration:",i)

iteration: 5
iteration: 15
iteration: 25
iteration: 35
iteration: 45
```

while loop

```
count = 0
while count < 5:
    print("count:",count)
    count+=1

count: 0
count: 1
count: 2
count: 3
count: 4</pre>
```

control flow tools

break

```
for i in range(10):
    if i == 5:
        break
    print(i)

0
1
2
3
4
```

continue

```
for i in range(10):
   if i == 5:
      continue
   print(i)
```

```
0
1
2
3
4
6
7
8
```

pass

```
for i in range(10):
    if i == 5:
        pass
    print(i)

0
1
2
3
4
5
6
7
8
9
```

number is even or odd

```
num = int(input("enter number:"))
if num % 2 == 0:
    print("the number is even.")
else:
    print("the number is odd.")
enter number:25
the number is odd.
```

sum of numbers in a given range

```
start = int(input("enter the start of the range:"))
end = int(input("enter the end of the range:"))
sum = 0
for i in range(start,end + 1):
    sum +=i
print("the sum is:", sum)
```

```
enter the start of the range:2 enter the end of the range:10 the sum is: 54
```

to find factorial number

```
num = int(input("enter a number:"))
factorial = 1
for i in range(1, num + 1):
   factorial*= i
print("the factorial is:",factorial)
enter a number:5
the factorial is: 120
```

fibonacci series

```
n = int(input("enter a number of terms: "))
a, b = 0, 1
for i in range(n):
    print(a, end=" ")
    a,b = b, a + b

enter a number of terms: 5
0 1 1 2 3
```

simple calculator

```
num1 = float(input("enter first number:"))
num2 = float(input("enter second number:"))
operation= input("enter operation(+,-,*,/,%,//,**):")
if operation == "+":
  print("result:", num1 + num2)
elif operation == "-":
  print("result:", num1 - num2)
elif operation == "*":
  print("result:", num1 * num)
elif operation == "/":
  print("result:", num1 / num2)
elif operation == "%":
  print("result:", num1 % num2)
elif operation == "//":
  print("result:", num1// num2)
elif operation == "**":
  print("result:", num1**num2)
  print("invalid operation")
```

```
enter first number:2
enter second number:3
enter operation(+,-,*,/,%,//,**):**
result: 8.0
```

leap year or not

```
year = int(input("enter a year:"))
if year%4 == 0 and (year%100 !=0) or (year % 400 == 0):
    print("leap year")
else:
    print("not a leap year")
enter a year:2019
not a leap year
```

largest of three numbers

```
num1 = float(input("enter first number :"))
num2 = float(input("enter second number:"))
num3 = float(input("enter third number:"))
if num1 >= num2 and num1 >= num3:
    print("largest number is:",num1)
elif num2 >= num3:
    print("largest number is:",num2)
else:
    print("largest number is:",num3)
enter first number:6
enter second number:9
enter third number:2
largest number is: 9.0
```

positive or negative or zero

```
a = int(input("enter a number:"))
if a > 0:
    print("positive")
elif a < 0:
    print("negative")
else:
    print("zero")
enter a number:4
positive</pre>
```

sum of all even numbers in a range

```
a = int(input("enter the start of the range:"))
b = int(input("enter the end of the range:"))
sum = 0
for i in range(a,b + 1):
    if i % 2 == 0:
        sum += i
print("the sum of even numbers:", sum)
enter the start of the range:6
enter the end of the range:15
the sum of even numbers: 50
```

```
a = int(input("enter the number:"))
if a % 2 == 0 or a % 3 == 0:
   print("number is divisible by either")
else:
   print("numbr is not divisible by either")
enter the number:6
number is divisible by either
```

2

```
a = int(input("enter the number:"))
if a >= 10:
    print("hello")
else:
    print("good bye")
enter the number:7
good bye
```

```
a = int(input("enter the number:"))
if a % 10 == 0:
  print("a is divisible by 10")
elif a % 5 == 0 :
  print("a is divisible by 5")
else:
  print("a is neither divisible by 5 or 10")
enter the number:6
a is neither divisible by 5 or 10
```

```
a = int(input("enter a number"))
if a >= 100 and a <= 200:
    print("a is between 100 and 200")
else:
    print("a is not in beteen 100 and 200")
enter a number108
a is between 100 and 200</pre>
```

```
a = int(input("enter a number:"))
if a > 50 and a < 100:
   print("a in between range")
else:
   print("a is not in range")
enter a number:36
a is not in range</pre>
```

6

```
a = int(input("enter a number:"))
if a > 100 and a < 500:
    print("a in range")
else:
    print("a not in range")
enter a number:365
a in range</pre>
```

```
for i in range(1,11):
    print(i)

1
2
3
4
5
6
7
8
9
10
```

```
for i in range(2,21,2):
    print(i)

2
4
6
8
10
12
14
16
18
20
```

```
total_sum = 0
for number in range(1, 101):
    total_sum += number
print("The sum of all numbers from 1 to 100 is:", total_sum)
The sum of all numbers from 1 to 100 is: 5050
```

10

```
num = int(input("enter the number"))
for i in range(1,11):
    print(num , "*" , i , "=" , num * i)

enter the number7
7 * 1 = 7
7 * 2 = 14
7 * 3 = 21
7 * 4 = 28
7 * 5 = 35
7 * 6 = 42
7 * 7 = 49
7 * 8 = 56
7 * 9 = 63
7 * 10 = 70
```

```
number = 1
while number <= 20:
    print(number)
    number += 2</pre>
```

```
1
3
5
7
9
11
13
15
17
```

```
name = str(input("enter the name:"))
for i in range(5):
    print(name)

enter the name:hello world
hello world
hello world
hello world
hello world
hello world
```

```
input_string = input("Enter a string: ")
char_to_count = input("Enter the character to count: ")
count = 0
for char in input_string:
    if char == char_to_count:
        count += 1
print(f"The character '{char_to_count}' appears {count} times in the string.")
Enter a string: hello
Enter the character to count: l
The character 'l' appears 2 times in the string.
```

```
input_string = input("Enter a string: ")
reversed_string = ""
index = len(input_string) - 1
while index >= 0:
    reversed_string += input_string[index]
    index -= 1
print("Reversed string:", reversed_string)
```

```
Enter a string: rakshitha
Reversed string: ahtihskar
```

```
even_sum = 0
for number in range(1, 51):
    if number % 2 == 0:
        even_sum += number
print("The sum of all even numbers from 1 to 50 is:", even_sum)
The sum of all even numbers from 1 to 50 is: 650
```