

## Control Flow And Loops

### if statement

```
age=18
if age>=18:
    print('You areb eligible to vote')

You areb eligible to vote
```

### if else statement

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

enter the number15
odd number
```

### if else if/elif

```
mark=int(input('enter the mark'))
if mark>=90:
    print('gradeA')
elif mark>=75:
    print('Grade B')
elif mark>=50:
    print('Grade C')
else:
    print('Grade F')

enter the mark78
Grade B
```

### for loop

```
for i in range(5):
    print('interaction',i)

interaction 0
interaction 1
interaction 2
interaction 3
interaction 4
```

### range function

```
for i in range(5,50,10):  
    print('interaction',i)
```

```
interaction 5  
interaction 15  
interaction 25  
interaction 35  
interaction 45
```

while loop

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

```
count 0  
count 1  
count 2  
count 3  
count 4
```

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==4:  
        continue  
    print(i)
```

```
0  
1  
2  
3  
5  
6  
7
```

8  
9

Pass

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

0  
1  
2  
3  
4  
5  
6  
7  
8  
9

hands on practise even or odd

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

enter the number30  
even number

sum of numbers in given range

```
start=int(input('enter the start number'))  
end=int(input('enter the end number'))  
sum=0  
for i in range(start,end+1):  
    sum+=i  
print('sum of numbers from',start,'to',end,'is',sum)
```

enter the start number5  
enter the end number10  
sum of numbers from 5 to 10 is 45

sum of factorial

```
num=int(input('Enter the number'))  
factorial=1
```

```

for i in range(1,num+1):
    factorial*=i
    print('factorial is:',factorial)

```

```

Enter the number5
factorial is: 1
factorial is: 2
factorial is: 6
factorial is: 24
factorial is: 120

```

Fibonacci numbers

```

n=int(input('enter the number'))
a,b=0,1
for i in range(n):
    print(a)
    a,b=b,a+b

```

```

enter the number10
0
1
1
2
3
5
8
13
21
34

```

Simple calculator using if-else

```

num1=float(input('enter the first number'))
num2=float(input('enter the second number'))
operation=input('enter thre operation(+,-,*,/,%,//,**):')
if operation=='+':
    print('Result:',num1+num2)
elif operation=='-':
    print('Result:',num1-num2)
elif operation=='*':
    print('Result:',num1*num2)
elif operation=='/':
    print('Result:',num1/num2)
elif operation=='%':
    print('Result:',num1%num2)
elif operation=='//':
    print('Result:',num1//num2)
elif operation=='**':

```

```
    print('Result:', num1**num2)
else:
    print('Invalid operation')

enter the first number10
enter the second number10
enter the operation(+, -, *, /, %, //, **):)
Invalid operation
```

Check leap year

```
year=int(input('enter the year'))
if year%400==0:
    print(year, 'is a leap year')
else:
    print(year, 'is not a leap year')

enter the year2024
2024 is not a leap year
```

Find the largest of Three numbers

```
num1=float(input('enter the number'))
num2=float(input('enter the number'))
num3=float(input('enter the number'))
if num1>=num2 and num1>=num3:
    print(num1, 'is largest number')
elif num2>=num1 and num2>=num3:
    print(num2, 'is largest number')
else:
    print(num3, 'is largest number')

enter the number48
enter the number68
enter the number23
68.0 is largest number
```

check positive ,negative or zero

```
a=int(input('enter the number'))
if a>0:
    print('positive number')
elif a<0:
    print('negative number')
else:
    print('zero')

enter the number0
zero
```

sum of all even number in range

```
start=int(input('enter the start value'))
end=int(input('enter the end value'))
evensum=0
for num in range(start, end+1):
    if num %2==0:
        evensum+=num
print('sum of even numbers:',evensum)
```

enter the start value5

enter the end value10

sum of even numbers: 24