

```
age=18
if age<18:
    print('you are eligible to vote')

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

else statement

elif statement

range function

```
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
```

while function

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

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

control flow tools

break : exit the loop prematurely

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

5
```

pass function

```
for i in range(3):
    if i==5:
        pass
    print(i)

0
1
2
```

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+=1
print('the sum is:',sum)

enter the start of the range:24
enter the end of the range:45
the sum is: 22

```

fibonacci numbers

```

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

enter the number of terms9
0 1 1 2 3 5 8 13 21

number=int(input('enter a number:'))
factorial=1
for i in range(1,number+1):
    factorial*=i
print('the factorial is:',factorial)

enter a number:24
the factorial is: 620448401733239439360000

```

SIMPLE CALCULATOR USING IF ELSE

```

num1=float(input('enter first number:'))
num2=int(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*num2)
elif operation=='/':
    print('result:',num1/num2)
elif operation=='**':
    print('result:',num1**num2)
else:
    print('invalid operation')

```

```
enter first number:30
enter second number:4
enter operation(+,-,*,/):-
result: 26.0
```

check leap year

```
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:2023
not a leap year
```

sum of all even numbers in range

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

```
enter start of range:20
enter end of strange30
sum of even numbers: 150
```

```
number = float(input("Enter a number: "))
```

```
if number > 0:
    print("The number is positive.")
elif number < 0:
    print("The number is negative.")
else:
    print("The number is zero.")
```

```
Enter a number: 45
The number is positive.
```

```
number = int(input("Enter a number: "))
```

```
if number % 2 == 0 and number % 3 == 0:
    print("The number is divisible by both 2 and 3.")
else:
    print("The number is NOT divisible by both 2 and 3.")
```

Enter a number: 2
The number is NOT divisible by both 2 and 3.

```
number = int(input("Enter a number: "))
```

```
if 100 <= number <= 200:  
    print("The number is between 100 and 200.")  
else:  
    print("The number is not between 100 and 200.")
```

Enter a number: 20
The number is not between 100 and 200.

```
number = int(input("Enter a number: "))
```

```
if 100 < number < 500:  
    print("The number is greater than 100 but less than 500.")  
else:  
    print("The number is not in the range between 100 and 500.")
```

Enter a number: 30
The number is not in the range between 100 and 500.

```
number = int(input("Enter a number: "))
```

```
if number > 10:  
    print("hello")  
else:  
    print("goodbye")
```

Enter a number: 12
hello

```
number = int(input("Enter a number: "))
```

```
if number > 10:  
    print("hello")  
else:  
    print("goodbye")
```

Enter a number: 25
hello

switch statements

```
age=20
if age>=18:
    print('you are an adult now')
```

you are an adult now

while loop

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

1
2
3
4
5

```
for i in range(2,10,3):
    print(i)
```

2
5
8