

control flow and **loops

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

if else statement

```
num=int(input("Enter a number:"))
if num%2==0:
    print("evan number")
else:
    print("odd number")
Enter a number:12
evan number
```

if-elif-else statement

```
marks=int(input("Enter your marks:"))
if marks>=90:
    print("Grade:A")
elif marks>=75:
    print("Grade:B")
elif marks>=50:
    print("Grade:C")
elif marks>=35:
    print("Grade:D")
else:
    print("Grade:E")
File "<ipython-input-3-c16f3d94ae1f>", line 4
    elif marks>=75:
    ^
SyntaxError: invalid syntax
```

for loop

```
for i in range(5,10,20)
print("iteration:",i)
```

```
File "<ipython-input-7-b3a79e357e91>", line 1
  for i in range(5,10,20)
                        ^
```

SyntaxError: expected ':'

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

```
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:
        break
    print(i)
```

pass

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

```
0
1
2
```

HANDS ON PRACTICE

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)
```

```
-----
-----
KeyboardInterrupt                                Traceback (most recent call
last)
<ipython-input-33-5fbdd75e052f> in <cell line: 1>()
----> 1 start=int(input("Enter the start of the range:"))
      2 end=int(input("Enter the end of the range:"))
      3 sum=0
      4 for i in range(start,end +1):
      5     sum+=1

/usr/local/lib/python3.10/dist-packages/ipykernel/kernelbase.py in
raw_input(self, prompt)
    849             "raw_input was called, but this frontend does
not support input requests."
    850         )
--> 851         return self._input_request(str(prompt),
    852             self._parent_ident,
    853             self._parent_header,

/usr/local/lib/python3.10/dist-packages/ipykernel/kernelbase.py in
_input_request(self, prompt, ident, parent, password)
    893         except KeyboardInterrupt:
    894             # re-raise KeyboardInterrupt, to truncate
traceback
--> 895             raise KeyboardInterrupt("Interrupted by user")
from None
    896         except Exception as e:
    897             self.log.warning("Invalid Message:",
exc_info=True)
```

KeyboardInterrupt: Interrupted by user

Fibonacci sequence

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

Enter the number of terms:5
0011112233

simple calculator using if-else

```
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*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:2
Enter second number4
Enter operation(+,-,*,/)+
Result: 6.0