07/11/25

Conditional Statements

IF condition

#Syntax if (condition): statement

```
In [164...   if True:
                 print('Data Science')
```

```
Data Science
```

```
In [166...   if False:
                 print('Data Science')
             print('bye for now')
```

```
bye for now
```

```
In [168...   if True:
                 print('Data Science')
             print('Bye for now')
```

```
Data Science
Bye for now
```

```
In [170...   x=10
             if x%2==0:
                 print('even')
```

```
even
```

```
In [172...   x=5
             if x%2!=0:
                 print('odd')
```

```
odd
```

```
In [174...   x=int(input('enter a number:'))
             if x%2==0:
                 print('even')
```

```
even
```

```
In [176...   age=20
             if age>=18:
                 print('Eligible for vote')
```

```
Eligible for vote
```

In [18]:
```python
age=19
if age>=18: print('Eligible for vote')
```

Eligible for vote

In [26]:
```python
age=int(input('enter the age:'))
if age>=18:
    print('Eligible for vote')
```

Eligible for vote

In [28]:
```python
if 10>5:
    print('10 is greater than 5')
print('code is ended')
```

10 is greater than 5
code is ended

In [30]:
```python
if 10>20:
    print('10 is greater than 5')
print('code is ended')
```

code is ended

IF-ELSE condition

Syntex if (condition): statement else: statement

In [39]:
```python
if True:
    print('Data Science')
else:
    print('Bye for now')
```

Data Science

In [41]:
```python
if False:
    print('Data Science job')
else:
    print('No job')
```

No job

In [51]:
```python
a=int(input('enter a number:'))
if a%2==0:
    print('even')
else:
    print('odd')
```

even

In [53]:
```python
a1=int(input('enter a number:'))
if a1%2==0:
    print('even')
else:
    print('odd')
```

odd

```
In [55]: age=10
         if age<=12:
             print('travel for free')
         else:
             print('pay for ticket')
```

travel for free

```
In [57]: age1=int(input('enter the age:'))
         if age1>=18:
             print('eligible for vote')
         else:
             print('not eligible fot vote')
```

not eligible fot vote

```
In [67]: x=int(input('enter a number:'))
         if x>0:
             print('positive number')
         else:
             print('negative number')
```

positive number

```
In [69]: x=int(input('enter a number:'))
         if x>0:
             print('positive number')
         else:
             print('negative number')
```

negative number

IF-ELIF-ELSE condition

Syntax if (condition): statement elif (condition): statement elif (condition): statement . . . else: statement

```
In [74]: a=1
         if a==1:
             print('one')
         elif a==2:
             print('two')
         elif a==3:
             print('three')
         elif a==4:
             print('four')
         else:
             print('number not found')
```

one

```
In [86]: a=int(input('enter a number:'))
         if a==1:
             print('one')
         elif a==2:
             print('two')
```

```python
    elif a==3:
        print('three')
    elif a==4:
        print('four')
    else:
        print('number not found')
```

```
four
```

In [88]:
```python
a=int(input('enter a number:'))
if a==1:
    print('one')
elif a==2:
    print('two')
elif a==3:
    print('three')
elif a==4:
    print('four')
else:
    print('number not found')
```

```
number not found
```

In [100…
```python
age=int(input('enter the age:'))
if age<=12:
    print('child')
elif age>=13 and age<=20:
    print('teenager')
elif age>=21 and age<=35:
    print('young adult')
else:
    print('adult')
```

```
young adult
```

In [102…
```python
letter='a'
if letter=='b':
    print('letter is b')
elif letter=='c':
    print('letter is c')
elif letter=='a':
    print('letter is a')
else:
    print('letter is not a,b or c')
```

```
letter is a
```

In [110…
```python
letter=input('enter a letter')
if letter=='b':
    print('letter is b')
elif letter=='c':
    print('letter is c')
elif letter=='a':
    print('letter is a')
else:
    print('letter is not a,b or c')
```

```
letter is not a,b or c
```

In [178...
```python
num=int(input('enter a number:'))
if num>0:
    print('positive number')
elif num==0:
    print('zero number')
else:
    print('negative number')
```
```
positive number
```

In [180...
```python
num=int(input('enter a number:'))
if num>0:
    print('positive number')
elif num==0:
    print('zero number')
else:
    print('negative number')
```
```
zero number
```

In [182...
```python
num=int(input('enter a number:'))
if num>0:
    print('positive number')
elif num==0:
    print('zero number')
else:
    print('negative number')
```
```
negative number
```

NESTED IF condition

Syntax if (condition): statement if (condition): statement

In [115...
```python
x=int(input('enter a number:'))
if x%2==0:
    print('even number')
    if x>5:
        print('greater number')
else:
    print('odd number')
```
```
odd number
```

In [117...
```python
x=int(input('enter a number:'))
if x%2==0:
    print('even number')
    if x>5:
        print('greater number')
else:
    print('odd number')
```
```
even number
```

In [119...
```python
x=int(input('enter a number:'))
if x%2==0:
```

```python
        print('even number')
        if x>5:
            print('greater number')
else:
    print('odd number')
```

even number
greater number

In [123…
```python
x=int(input('enter a number:'))
if x%2==0:
    print('even number')
    if x>5:
        print('greater number')
    else:
        print('smaller number')
else:
    print('odd number')
```

even number
smaller number

In [125…
```python
x=int(input('enter a number:'))
if x%2==0:
    print('even number')
    if x>5:
        print('greater number')
    else:
        print('smaller number')
else:
    print('odd number')
```

odd number

In [141…
```python
age=int(input('enter the age:'))
is_member=True
if age>=60:
    if is_member:
        print('30% senior discount')
    else:
        print('20% senior discount')
else:
    print('not eligible for a senior discount')
```

30% senior discount

In [139…
```python
age=int(input('enter the age:'))
is_member=False
if age>=60:
    if is_member:
        print('30% senior discount')
    else:
        print('20% senior discount')
else:
    print('not eligible for a senior discount')
```

20% senior discount

In [143…
```python
age=int(input('enter the age:'))
is_member=True
if age>=60:
    if is_member:
        print('30% senior discount')
    else:
        print('20% senior discount')
else:
    print('not eligible for a senior discount')
```
not eligible for a senior discount

In [145…
```python
a=10
if a>5:
    print('bigger than 5')
    if a<=15:
        print('between 5 and 15')
```
bigger than 5
between 5 and 15

In [147…
```python
letter = "A"
if letter == "B":
    print("letter is B")
else:
    if letter == "C":
        print("letter is C")
    else:
        if letter == "A":
            print("letter is A")
        else:
            print("letter isn't A, B and C")
```
letter is A

In [157…
```python
letter = input('enter a letter:')
if letter == "B":
    print("letter is B")
else:
    if letter == "C":
        print("letter is C")
    else:
        if letter == "A":
            print("letter is A")
        else:
            print("letter isn't A, B and C")
```
letter is A

In [159…
```python
letter = input('enter a letter:')
if letter == "B":
    print("letter is B")
else:
    if letter == "C":
        print("letter is C")
    else:
        if letter == "A":
```

```
            print("letter is A")
        else:
            print("letter isn't A, B and C")
```

letter isn't A, B and C

In [204…
```
x = 10
y = 5
if x > 5:
    if y > 5:
        print("x is greater than 5")
    elif y==5:
        print("x is greater than 5 and y is 5")
    else:
        print("x is greater than 5 and y is less than 5")
```

x is greater than 5 and y is 5

Ternary conditional statement

In [185…
```
marks=64
res='Pass' if marks>=40 else 'Fail'
print('result:',res)
```

result: Pass

In [187…
```
age=20
s='adult' if age>=18 else 'minor'
print(s)
```

adult

In [191…
```
num=-10
a='positive' if num>0 else 'negative'
print(a)
```

negative

In [195…
```
num=int(input('enter a number:'))
a='even' if num%2==0 else 'odd'
print(a)
```

odd

Match-case statement

In [202…
```
number=2
match number:
    case 1:
        print('one')
    case 2|3:
        print('two or three')
    case _:
        print('other number')
```

two or three

greatest of 3 numbers

```
In [213...
a=int(input('enter a number:'))
b=int(input('enter a number:'))
c=int(input('enter a number:'))
if a>=b and a>=c:
    print(a)
elif b>=a and b>=c:
    print(b)
elif c>=a and c>=b:
    print(c)
else:
    print('invalid')
```

30

```
In [211...
x=int(input('enter a number:'))
y=int(input('enter a number:'))
z=int(input('enter a number:'))
if x>y and x>z:
    print(x)
elif y>z:
    print(y)
else:
    print(z)
```

98

```
In [215...
a=int(input('enter a number:'))
b=int(input('enter a number:'))
c=int(input('enter a number:'))
if a>b and a>c:
    print(a)
elif b>c:
    print(b)
else:
    print(c)
```

92

Clculater using canditional statements

```
In [2]:
a=1
b=2
operator=3
if operator==1:
    print(a+b)
elif operator==2:
    print(b-a)
elif operator==3:
    print(a*b)
```

```
else:
    print('invalid input')
```

2

In [6]:
```
a=int(input('enter a number:'))
b=int(input('enter a number:'))
operator=int(input('enter a number:'))
if operator==1:
    print(a+b)
elif operator==2:
    print(a-b)
elif operator==3:
    print(a*b)
elif operator==4:
    print(a/b)
elif operator==5:
    print(a//b)
elif operator==6:
    print(a%b)
elif operator==7:
    print(a**b)
else:
    print('invalid input')
```

2.0

In [8]:
```
a=int(input('enter a number:'))
b=int(input('enter a number:'))
operator=int(input('enter a number:'))
if operator==1:
    print(a+b)
elif operator==2:
    print(a-b)
elif operator==3:
    print(a*b)
elif operator==4:
    print(a/b)
elif operator==5:
    print(a//b)
elif operator==6:
    print(a%b)
elif operator==7:
    print(a**b)
else:
    print('invalid input')
```

953674316406250000000000000000000000

In [10]:
```
a=int(input('enter a number:'))
b=int(input('enter a number:'))
operator=int(input('enter a number:'))
if operator==1:
    print(a+b)
elif operator==2:
    print(a-b)
elif operator==3:
```

```
        print(a*b)
    elif operator==4:
        print(a/b)
    elif operator==5:
        print(a//b)
    elif operator==6:
        print(a%b)
    elif operator==7:
        print(a**b)
    else:
        print('invalid input')
```

invalid input

closest number using conditional statements

In [17]:
```
n=13
m=4
q=n//m
low=m*q
high=m*(q+1)
if abs(n-low)<abs(n-high):
    print(low)
else:
    print(high)
```

12

In [19]:
```
a=-15
b=6
c=a//b
low=b*c
high=b*(c+1)
if abs(a-low)<abs(a-high):
    print(low)
else:
    print(high)
```

-12

In [21]:
```
a=int(input('enter a number:'))
b=int(input('enter a number:'))
c=a//b
num1=b*c
num2=b*(c+1)
if abs(a-num1) < abs(a-num2):
    print(num1)
else:
    print(num2)
```

20

In [39]:
```
a=int(input('enter a number:'))
b=int(input('enter a number:'))
```

```
c=a//b
num1=b*c
num2=b*(c+1)
if abs(a-num1) < abs(a-num2):
    print(num1)
else:
    print(num2)
```

-40

In [51]:
```
a=int(input('enter a number:'))
b=int(input('enter a number:'))
c=a//b
num1=b*c
num2=b*(c+1)
if abs(a-num1) < abs(a-num2):
    print(num1)
else:
    print(num2)
```

-8

In [ ]: