

The if Conditionals

- ❖ *The conditions of python come in multiple form plane if conditional if else conditional and if else conditional.*

Plain if conditional statement

- ❖ *An if statement test a particular condition if the condition notice to true a course of action explode a statement or set of statement is executed if the condition is false it does nothing*



026 IF CONDITION

```
num1=int(input("Enter Number 1 : "))
```

```
num2=int(input("Enter Number 2 : "))
```

```
if num2<num1:
```

```
    t=num2*num2
```

```
    t=t+10
```

```
print(num2, num1, t)
```

```
grade=input("Enter your grade : ")
```

```
if grade=='A' or 'a':
```

```
    print("Congratulations! You did well")
```

The if Conditionals

- ❖ ***The if else conditional statement***
- ❖ ***This form of if statement test a condition and if the condition evaluates to do it carries out statement indented below if an in case condition evaluates To falls it carries out statements indented below Else.***



The if Conditionals

❖ *For example, Consider the following code fragments using if-else conditionals :*

```
if a >= 0 :  
    print(a, "is zero or a positive number")  
else :  
    print(a, "is a negative number")
```

The colon (:) is in both : the if header as well as else line

The statements in if-block and else are indented

027 IF ELSE CONDITION

```
a=int(input("Enter the Value of a : "))  
if a>=0:  
    print(a, "is zero or a positive number")  
else:  
    print(a, "is a negative number")
```



The if Conditionals

- ❖ *The if-elif Conditional Statement*
- ❖ *Sometimes, you want to check a condition when control reach else, i.e., condition test in the form of as if. To such conditions, python provide if-elif and if-elif-else statements.*



028 IF ELIF CONDITION

```
runs=int(input("Enter Batsman's runs scored : "))
if runs>=100:
    print("Batsman Scored a Century")
elif runs>=50:
    print("Batsman Scored a Fifty")
else:
    print("Batsman has Neither Scored a Century nor Fifty")
```

```
num=int(input("Enter a Number : "))
if num<0:
    print(num, "is a Negative Number.")
elif num==0:
    print(num, "is Equal to Zero.")
else:
    print(num, "is a Positive Number")
```

The if Conditionals

- ❖ *Write a program that input as integer in range 0 to 999 and then Prints if the integer integrate is a 1/2/3 digit number.*

```
num=int(input("Enter a Number Between 0 to 999 : "))
if num<0:
    print("Invalid Entry. Valid Range is 0 to 999.")
elif num==0:
    print("You Have Entered Zero.")
elif num<10:
    print("Single Digit Number is Entered")
elif num<100:
    print("Two Digit Number id Entered")
elif num<=999:
    print("Three Digit Number is Entered")
else:
    print("Invalid Entry. Valid Range is 0 to 999.")
```

028 IF ELIF CONDITION

❖ *Nested if statements*

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- ❖ *Sometimes a second condition is needed to test an additional condition. For such situations, python also supports nested-if form of if. A nested if is an if that has another if in its body or in elif's body or in its else's body*

❖ Nested if statements

```
if x < y and x < z :
```

```
    if y < z :  
        min, mid, max = x, y, z  
    else :  
        min, mid, max = x, z, y
```

```
elif y < x and y < z :
```

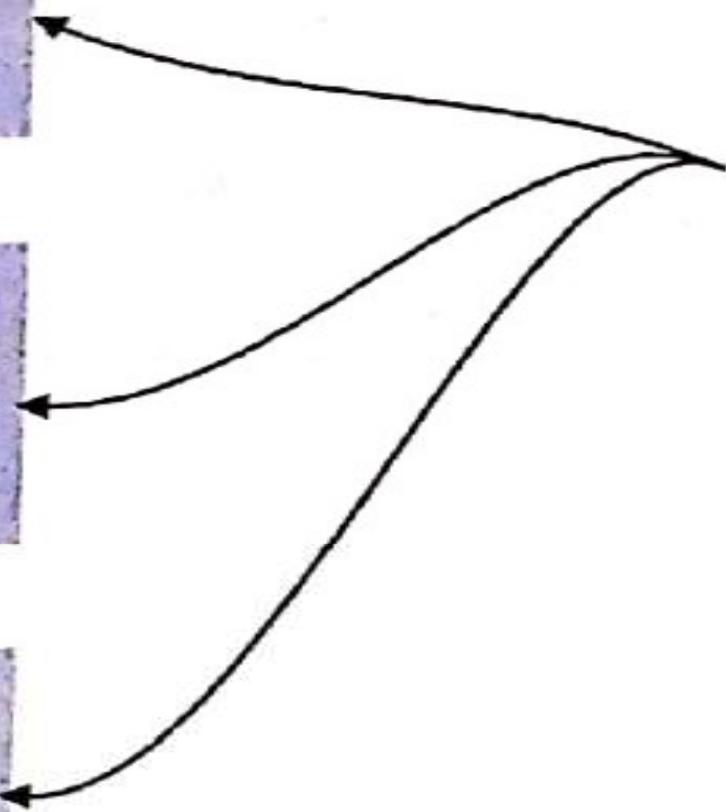
```
    if x < z :  
        min, mid, max = y, x, z  
    else :  
        min, mid, max = y, z, x
```

```
else :
```

```
    if x < y :  
        min, mid, max = z, x, y  
    else:  
        min, mid, max = z, y, x
```

```
print("Numbers in ascending order :", min, mid, max)
```

*if statements inside another if
(Nested ifs)*



```
if x<y and x<z:
    if y<z:
        min,mid,max=x,y,z
    else:
        min,mid,max=x,z,y
elif y<x and y<z:
    if x<z:
        min,mid,max=y,x,z
    else:
        min,mid,max=y,z,x
else:
    if x<y:
        min,mid,max=z,x,y
    else:
        min,mid,max=z,y,x
print("Numbers in Ascending Order : ", min,mid,max)
```

```
x=int(input("Enter First Number : "))
y=int(input("Enter Second Number : "))
z=int(input("Enter Third Number : "))
min=mid=max=None
```

029 NESTED IF CONDITION

The if Conditionals

❖ *Storing Conditions*

- ❖ *Sometimes the conditions begin used in code are complex and repetitive. In such cases to make your program More readable, you can use named conditions i.e., you can store conditions in a name and then use that named conditional in the if statements.*
- ❖ *Consider the following example code :*

030 STORING NUMBER

```
a, b, c = 1, 2, 3
all = a==1 and b==2 and c==3
if all:
    print("Condition Fulfilled")
if all:
    print("Condition Fulfilled Again")
```



The if Conditionals

- ❖ Using nested if statement we can visit the previous program as follows*
- ❖ Write a program that input an integer in range 0 to 999 and then print if the integer entered is a 1/2/3Digit number use nested if statement.*

031 NESTED IF CONDITION

```
num=int(input("Enter a Number Between 0 to 999 : "))
if num<0 or num>999:
    print("Invalid Entry. Valid Range is 0 to 999.")
else:
    if num<10:
        print("Single Digit Number is Entered.")
    else:
        if num < 100:
            print("Two Digit Number is Entered.")
        else:
            print("Three Digit Number is Entered.")
```

PYTHON TEST – 1.10

THE IF CONDITIONALS

