

Informatics Practices

Class – XI 2020-21

CONDITIONAL STATEMENTS

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- The **if statement** is the conditional statement in Python. There are 3 forms of if statement:
 1. **Simple if statement**
 2. **The if..else statement**
 3. **The If..elif..else statement**

SIMPLE IF STATEMENT

- The if statement tests a condition & in case the condition is True, it carries out some instructions and does nothing in case the condition is False.

- Syntax

if <condition>:

statement

[statements]

The header of if statement, colon (:) at the end

} Body of if

- e.g.

```
if amount>1000:
```

```
    disc = amount * .10
```

EXAMPLE OF IF STATEMENT

- **WAP to calculate the discount (10%) if amount is more than 1000.**

```
Price = float (input("Enter Price ? " ))
```

```
Qty = float (input("Enter Qty ? " ))
```

```
Amt = Price* Qty
```

```
print(" Amount :", Amt)
```

if Amt >1000:

```
disc = Amt * .10
```

```
print("Discount :", disc)
```



**Body of if statement
(will be executed incase condition is true)**

THE IF-ELSE STATEMENT

- The if - else statement tests a condition and in case the condition is True, it carries out statements indented below if and in case the condition is False, it carries out statement below else.

- **Syntax**

```
if <condition> :
```

```
    statement  
    [statements]
```

} Block 1

```
else :
```

```
    statement  
    [statements]
```

} Block 2

- **e.g.**

```
if amount>1000:
```

```
    disc = amount * 0.10
```

```
else:
```

```
    disc = amount * 0.05
```

EXAMPLE OF IF-ELSE STATEMENT

WAP to find discount (10%) if amount is more than 1000, otherwise (5%).

```
Price = float (input("Enter Price ? " ))
```

```
Qty = float (input("Enter Qty ? " ))
```

```
Amt = Price* Qty
```

```
print(" Amount :", Amt)
```

```
if Amt >1000 :
```

```
    disc = Amt * .10
```

```
    print("Discount :", disc)
```



block 1
(will be executed incase condition is true)

```
else :
```

```
    disc = Amt * .05
```

```
    print("Discount :", disc)
```



block 2
(will be executed incase condition is False)

THE IF..ELIF STATEMENT

- The **if - elif statement** has multiple test conditions and in case the **condition1** is **True**, it executes statements in **block1**, and in case the **condition1** is **False**, it moves to **condition2**, and in case the **condition2** is **True**, executes statements in **block2**, so on. In case none of the given conditions is **true**, then it executes the statements under **else block**

- **Syntax**

```
if <condition1> :  
    statement  
    [statements] } ▪ Block 1  
elif <condition2> :  
    statement  
    [statements] } ▪ Block 2  
elif <condition3> :  
    statement  
    [statements] } ▪ Block 3  
  
:  
:  
else :  
    statement  
    [statements]
```

EXAMPLE OF IF-ELIF STATEMENT

- WAP to input price and qty and calculate the discount. The discount should be (20%) if amount>3000, disc(10%) if Amount <=3000 and >1000, otherwise (5%).

```
Price = float (input("Enter Price ? " ))
```

```
Qty = float (input("Enter Qty ? " ))
```

```
Amt = Price* Qty
```

```
print(" Amount :", Amt)
```

```
if Amt >3000 :
```

```
    disc = Amt * .20
```

```
    print("Discount :", disc)
```

```
elif Amt>1000:
```

```
    disc = Amt * .10
```

```
    print("Discount :", disc)
```

```
else :
```

```
    disc = Amt * .05
```

```
    print("Discount :", disc)
```


EXAMPLE OF NESTED IF STATEMENT

WAP to input a number and check whether it is Positive odd / positive even/ negative number

```
x = int (input("Enter Num1  "))  
if x < 0:  
    print (x , "is negative")  
elif x % 2:  
    print (x , "is positive and odd")  
else:  
    print (x , "is even and non-negative")
```

EXAMPLE OF NESTED IF STATEMENT

- WAP to find Largest of Three Numbers (X,Y,Z)

```
X = int (input("Enter Num1 ? " ))
```

```
Y = int (input("Enter Num2 ? " ))
```

```
Z = int (input("Enter Num3 ? " ))
```

```
if X > Y :
```

```
    if X > Z:
```

```
        Largest = X
```

```
    else:
```

```
        Largest = Z
```

```
else:
```

```
    if X > Z:
```

```
        Largest = X
```

```
    else:
```

```
        Largest = Z
```

```
print("Largest Number :", Largest)
```

ASSIGNMENT

- WAP to input a number and check whether it is Even or Odd.
- WAP to input a number print its Square if it is odd, otherwise print its square root.
- WAP to input a Year and check whether it is a Leap year.
- WAP to input a number check whether it is Positive or Negative or ZERO.
- WAP to input Percentage Marks of a students, and find the grade as per following criterion:

Marks	Grade
≥ 90	A
75-90	B
60-75	C
Below 60	D