**Decision Making**

Python programming language assumes any non-zero and non-null values as TRUE, and any zero or null values as FALSE value.

# if statements

An if statement consists of a boolean expression followed by one or more statements.

**Syntax**

if expression:

statement(s)

#!/usr/bin/python3

var1 = 100

if var1:

print ("1 - Got a true expression value")

print (var1)

var2 = 0

if var2:

print ("2 - Got a true expression value")

print (var2)

print ("Good bye!")

Output:

1 - Got a true expression value

100

Good bye!

# if...else statement

An else statement contains a block of code that executes if the conditional expression in the if statement resolves to 0 or a FALSE value.

The else statement is an optional statement and there could be at the most only one else statement following if.

**Syntax**

if expression:

statement(s)

else:

statement(s)

Example

#!/usr/bin/python3

amount = int(input("Enter amount: "))

if amount < 1000:

discount = amount \* 0.05

print ("Discount ", discount)

else:

discount = amount \* 0.10

print ("Discount ", discount)

print ("Net payable: ", amount-discount)

Enter amount: 500

Discount 25.0

Net payable: 475.0

Enter amount: 1500

Discount 150.0

Net payable: 1350.0

# The elif Statement

The elif statement allows you to check multiple expressions for TRUE and execute a block of code as soon as one of the conditions evaluates to TRUE.

There can be an arbitrary number of elif statements following an if.

**Syntax**

if expression1:

statement(s)

elif expression2:

statement(s)

elif expression3:

statement(s)

else:

statement(s)

Example

#!/usr/bin/python3

amount = int(input("Enter amount: "))

if amount<1000:

discount = amount\*0.05

print ("Discount",discount)

elif amount<5000:

discount = amount\*0.10

print ("Discount",discount)

else:

discount = amount\*0.15

print ("Discount",discount)

print ("Net payable:",amount-discount)

Enter amount: 600

Discount 30.0

Net payable: 570.0

Enter amount: 3000

Discount 300.0

Net payable: 2700.0

Enter amount: 6000

Discount 900.0

Net payable: 5100.0

# Nested IF Statements

In a nested if construct, you can have an if...elif...else construct inside another if...elif...else construct.

**Syntax**

if expression1:

statement(s)

if expression2:

statement(s)

elif expression3:

statement(s)

else:

statement(s)

elif expression4:

statement(s)

else:

statement(s)

# Switch case statement

Core Python does not provide switch or case statements as in other languages, but we can use if..elif...statements to simulate switch case.