

match statement

Python does not support switch..case statement (C,C++,Java Languages).

Match statement is called selection statement, which execute block of statements based on the selection of value or equality of value.

Syntax:

```
match(variable/value/expression):
```

```
    case <value>:
```

```
        statement-1
```

```
    case <value>:
```

```
        statement-2
```

```
    case <value>:
```

```
        statement-3
```

```
    ....
```

```
    case _:
```

```
        statement-x
```

match statement read value of variable and compare with all the cases, if value of variable is equal to any case it execute block and stop. If value of variable does not match with any case, it executes default case (this default case is defined using \_)

Example

```
match(5):
```

```
    case 1:
```

```
        print("One")
```

```
    case 2:
```

```
        print("Two")
```

```
    case _:
```

```
        print("Error")
```

Output

Error

Example

# Simple Calculator (+,-,\*,/)

```
n1=int(input("Enter first number: "))
n2=int(input("Enter second number: "))
opr=input("Enter Operator (+,-,*,/) :")
match(opr):
    case '+':
        print(f'sum of {n1} and {n2} is {n1+n2}')
    case '-':
        print(f'diff of {n1} and {n2} is {n1-n2}')
    case '*':
        print(f'product of {n1} and {n2} is {n1*n2}')
    case '/':
        print(f'division of {n1} and {n2} is {n1/n2}')
    case _:
        print("invalid operator and try again...")
```

#### Output

```
Enter first number: 5
Enter second number: 4
Enter Operator (+,-,*,/) :+
sum of 5 and 4 is 9
```

```
Enter first number: 5
Enter second number: 2
Enter Operator (+,-,*,/) :*
product of 5 and 2 is 10
```

```
Enter first number: 5
Enter second number: 3
Enter Operator (+,-,*,/) :**
invalid operator and try again...
```

#### Example:

```
print("MENU")
print("1. Python")
print("2. Java")
print("3. .Net")
print("4. Exit")
```

```
opt=int(input("Enter Your Option "))
match(opt):
    case 1:
        print("Python Course Fee : 5000")
    case 2:
        print("Java Course Fee : 2000")
    case 3:
        print(".Net Course Fee : 1000")
    case 4:
        print("Thank You For Choosing Automated System")
    case _:
        print("Wrong input try again...")
```

Output

MENU

1. Python
2. Java
3. .Net
4. Exit

Enter Your Option 3

.Net Course Fee : 1000

MENU

1. Python
2. Java
3. .Net
4. Exit

Enter Your Option 4

Thank You For Choosing Automated System

## Looping Control Statements

Looping control statements are used to repeat one or more than one statement number of times or until given condition.

Python support two types of looping control statements

1. while
2. for

### while loop

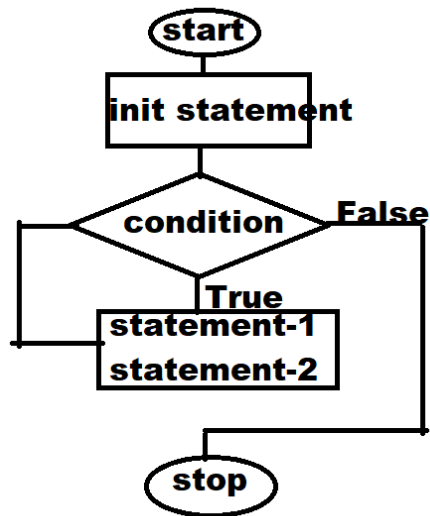
while loop is used to execute or repeat block of statements until given condition or Boolean expression.

Syntax-1:	Syntax-2:
<pre>while &lt;condition&gt;:     statement-1     statement-2 statement-3</pre> <p>statement-1,statement-2 are repeated until given condition is True, if condition is False, it terminates loop and continue with statement-3</p>	<pre>while &lt;condition&gt;:     Statement-1     Statement-2 else:     statement-3     statement-4</pre> <p>statement-5</p>

### While loop required 3 statements

1. initialization statement
2. condition
3. update statement

initialization statement defines the initial value of condition  
condition or Boolean expression which defines how many times while loop has to repeated  
update statement, which updates condition.



Example:

```

n=1 # Initialization Statement
while n<=5: # condition
    print("Hello")

    n=n+1 # update statement
  
```

Output

```

Hello
Hello
Hello
Hello
Hello
  
```

Example

# Write a program to find sum of 5 numbers, input these 5 numbers from keyboard

```

s=0
a=1
while a<=5:
    num=int(input("Enter Any Number "))
    s+=num

    a+=1
  
```

```
print(f'Sum is {s}')
```

Output

```
Enter Any Number 10
Enter Any Number 20
Enter Any Number 30
Enter Any Number 40
Enter Any Number 50
Sum is 150
```

# Write a program to print numbers from 1 to 10

```
# 1 2 3 4 5 6 7 8 9 10
```

```
num=1
while num<=10:
    print(num,end=' ')
    num+=1
```

**Output**

```
1 2 3 4 5 6 7 8 9 10
```

# write a program to print numbers from 10 to 1

```
print()
num=10
while num>=1:
    print(num,end=' ')
    num-=1
```

**Output**

```
10 9 8 7 6 5 4 3 2 1
```

# write a program to print even numbers from 2 to 20

```
print()
num=2
while num<=20:
```

```
print(num,end=' ')
num=num+2
```

**Output**

2 4 6 8 10 12 14 16 18 20

# write a program to print odd numbers from 1 to 20

```
print()
num=1
while num<=20:
    print(num,end=' ')
    num+=2
```

**Output**

1 3 5 7 9 11 13 15 17 19

**Example:**

# Write a program to find length of number

```
num=int(input("Enter any number "))
c=0
```

```
while num>0:
    c=c+1
    num=num//10
```

```
print(f'Length of number or Count of digits {c}')
```

**Output**

# Write a program to find length of number

```
num=int(input("Enter any number "))
c=0
```

```
while num>0:
    c=c+1
```

```
num=num//10
```

```
print(f'Length of number or Count of digits {c}')
```

**Output**

Enter any number 567

Length of number or Count of digits 3

Enter any number 5679345

Length of number or Count of digits 7

Enter any number -123

Length of number or Count of digits 0