

Operation

Arithmetic operator

+, -, *, /, %

Conditional operator

>, >=, <, <=, ==, !=

Assignment operator

=

Logical operator

&& || !

Increment and decrement

++

--

If statement

Simple if

Else if

If else if

Switch it is use to execute specific code or block base upon user option or choice.

If statement execute when condition satisfies.

Looping : it is use to execute the statement again and again till the condition become false.

While loop entry loop

Do while loop exit loop

For loop

Initialization : start and end option

Condition must be true

Do the task

Increment or decrement

For each loop or enhanced loop

Non primitive data type or reference data types.

It is use to store value as well as reference of another data types

1. array
2. class : pre defined or user defined
3. interface pre defined or user defined
4. enum

array array is known as non primitive or reference data type which is use to store more than one value of same types.

Syntax

```
datatype arrayname[];
```

```
int abc[];      declaration
```

```
int xyz[]={10,20,30,40,50};
```

```
System.out.println(xyz);      address of array
```

Array index position start from 0 and size-1

```
System.out.println(xyz[0]);
```

```
System.out.println(xyz[4]);
```

```
Int mno[]=new int[10];      mno can hold 10 number of type int.
```

```
mno[0]=100;
```

```
mno[1]=101;
```

```
System.out.println(mno[0]);
```

```
System.out.println(mno[1]);
```

```
System.out.println(xyz[0]);
```

```
System.out.println(mno[9]);
```

Default value of array is

Int family → 0

Float family 0. 0

Char → space

Boolean : false

String → null

For each loop or enhance loop

```
for(datatype variableName : arrayname) {  
  
}
```

Taking the value through keyboard in java

1. using Scanner class.

Scanner is a pre defined class which provided set of method which help to take the value through keyboards.

Syntax

```
Scanner sc = new Scanner(System.in);
```

Scanner pre defined class part of util package. (package is a collection of classes and interfaces).

```
import java.util.Scanner;
```

String : String is a pre defined class or also known as reference data types.

Single or more than one character enclosed in double quote is known as string.

In java if we want to store more than one character we need to use String .

```
String name = "Ravi Kumar";
```

OOPs

Method or functions : it is use to write a set of instruction to perform a specific task. And if we write this code in user defined method we can call those code again and again.

Method syntax or function syntax

```
returnType methodName(parameterList) {  
    method body;  
}
```

In java we need to write all user defined method inside class.

1. no passing parameter and no return type

```
void info() {  
    coding ...  
}
```

void is a keyword no return type.

2. Passing parameter but not return type

```
void add(int x, int y) {  
    int sum = x+y;  
    System.out.println("Sum "+sum);  
}
```

3. Passing parameter and return type

```
String sayHello(String name) {  
    // coding  
    return "Welcome "+name;  
}
```

static method can't call non static method directly.

OOPs concept

object : any real world entity

class : blue print of object

wheel, price, colour

car

start, appliedGear, moving, stop

person

bank

object creation syntax

```
ClassName objectReferenceName = new ClassName();
```

Type of variables or fields

In java variables or fields are divided into 3 types.

1. Instance variable
 - a. The variable which declared outside a method but inside class is known as instance variable.
 - b. Instance variable hold default value according to their data types.
Int family 0, float family 0.0, string null, char space, Boolean false.
 - c. We can access instance variable directly inside a method but method must be part of same class and it must be non static.
2. Local variable
 - a. The variable which declared inside a method is known as local variable.
 - b. Local variable doesn't hold default value we need to initialize
 - c. Scope of the variable within that method where it declared.
3. Static variable

When local variable or parameter variable have same name as instance variable. Then local variable hide the visibility of instance variable. Using this keyword we can refer to instance variable.

Constructor : it is type of **special method** which help to create the object.

1. Constructor have same name as class itself.
2. Constructor no return type not even void also.
3. Constructor no need to call it will call automatically when we create the object of that class.

Constructor is use to do initialization.

We can write parameter constructor also.

In the life of the object if we want to perform any task only one time that type of task we need to do inside empty(fixed value for all object) or parameter constructor(different values).

In the life of the object if we want to perform any task more than one time that type of task we need to write inside a method.

