

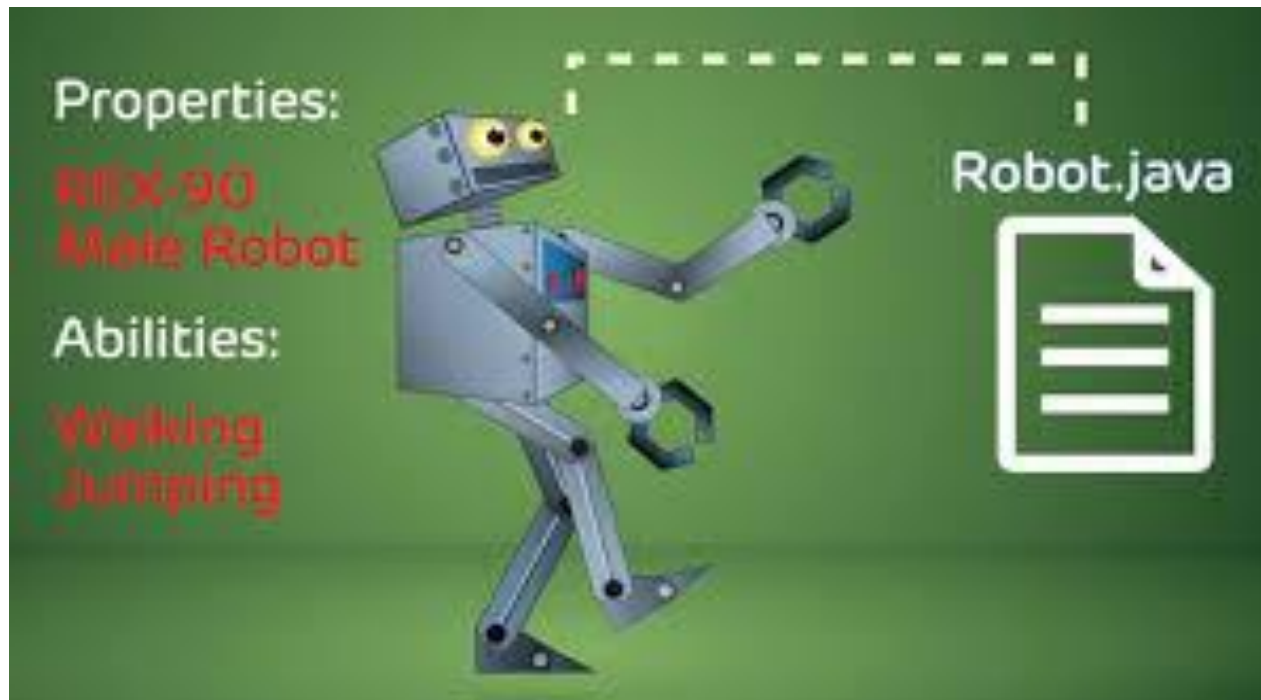
# Basics of Java

# Agenda

- ▶ Class construct
- ▶ Main method

# What is a Class?

- ▶ Contains data members and functions.



# What are data members?

- ▶ Data members in a class hold the values.
- ▶ E. g. name of a person is John  
color of a flower is red

# What are data members?

- ▶ Lets consider a car.
- ▶ Car has make, color, year in which it is manufactured etc.
- ▶ When we define a class as Car, we define data members for a car to hold values for these properties.

# How do we define a class and data members?

- ▶ The syntax for class is

```
class Car{  
    String make;  
    String color;  
    int year;  
    int speed;  
}
```

# What are data members?

- ▶ Data members hold the values.
- ▶ E.g. the make of a car is Mercedes Benz  
the color of the car is black  
the year of manufacturing is 2015  
the speed at which it is running is 100 miles / hour

# What are data members?

- ▶ The data members as color, make, year and speed hold the values for a car.



- ▶ You suggest some class names & the data members those will hold values for that class.

# Method construct

- ▶ What is a method?
- ▶ What is a function?
- ▶ **Both are same.**

# What is use of a method?

- ▶ When you need to do some operation again and again, instead of writing it multiple times, you can write a method.
- ▶ Say I want to add two numbers. So I will write  
`int c = a + b;`

# What is use of a method?

- ▶ But if I want to add two numbers 100 times I will have to write the same code again and again
- ▶ Instead, I can write that code in a method. This needs to be done only once.
- ▶ The method can be called when and where required.

# How to write a method?

- ▶ There are several parts to be specified while writing a method, as
  - ▶ Return type
  - ▶ Name of the method
  - ▶ Parameters passed to the method

Return\_type   Name\_of\_the\_method   ( zero or more parameters )

# How to write a method?

- ▶ Some examples: A method that does not take any parameter and also does not return any value.

```
void sayHello(){  
    System.out.println("Hello");  
}
```

void : - specifies that method does not return anything

sayHello : - name of the method

() : - specifies that this is a method and no parameters to be passed to this method

{ } : - holds the function body or definition

# How to write a method?

- ▶ Some examples: A method that takes one parameter and does not return any value.

```
void sayHello(String name){  
    System.out.println("Hello " + name);  
}
```

# How to write a method?

- ▶ Some examples: A method that takes one parameter and return a value.

```
void sayHello(String name){  
    String message = "Hello " + name;  
    return message;  
}
```



# Assignment - 1

- ▶ Write a class Person. Save in a file Person.java
- ▶ Declare data members as age, name, height, weight, city etc.
- ▶ Write a method to display this information for the person.

# Assignment - 2

- ▶ Write a class Student. Save in a file Student.java
- ▶ Declare data members as name, grade, school name, marks for maths, marks for english etc.
- ▶ Write a method to calculate score of the student. Add marks for maths and English. Display this information for the student.

# Assignment - 3

- ▶ Create a class Car. Save in a file Car.java
- ▶ Declare data members as color, make, year , current speed etc.
- ▶ Write a method to display this information for the person.
- ▶ Write another method accelerate which will increase speed by 20 miles / hr and return the increased speed.