JAVA WRITTEN NOTES

--SUGGULA JASWANTH--

NOTE: For the main class the name of the class I used is Jaswanth and for the sub class the name of class that I used is Reetesh. So whenever you notice the name Jaswanth in notes it's the main class name and when you see name Reetsh it's the sub class of it(Jaswanth)...

THANK YOU

computer
Class → it reads only class Files

```
class Jaswanth {
(main method) public static void main(String args[])    ← method header
{
    System.out.println("Hello World");    ← method body
    }
}
```

Jaswanth.Java → when it compiles gives → Jaswanth.class

import Java.util.scanner; → package used to import or take input from program

```
class Jaswanth{
    Public static void main(String args[ ]){
    Scanner Jasu = new Scanner(System.in);
    System.out.println(Jasu.nextline( ));    // string
    }
}
```

nextline → Take input when compiles and prints output in nextline

building a basic Calculator:

```
import java.util.Scanner;
class Jaswanth{
    public static void main(String args[ ]){
    scanner key = new Scanner(System.in);
    string a = key.nextline( );
    System.out.println(myta a);
```

```
import java.util.Scanner;

class Jaswanth {

    Public static void main ( String args[ ]){
     Scanner input = new Scanner( System.in);

     double x ;
     double y ;
     double z ;

     System.out.println (" Enter a number");

     x = input.nextdouble ( );
     System.out.println ("Enter another number");

     y = input.nextDouble( );

     z = x + y ;
     System.out.println( z);
    }

}
```

Math operators

```
Class Jaswanth {

    Public static void main(String args[ ] ) {
    int a, b, ans;

    a = 10;                    ++a; => output: 11
    b = 15;
    ans = a + b;
    System.out.println ("a+b":" +ans);
```

if condition

```
class Jaswanth{
    Public Static Voidmain ( String args[ ]){
     int a,b;
      a = 5;
      b =4;
     if ( a == b){
       System.out.println("EQUAL") ; }
     else {
       System.out.PrintIn ("NOT EQUAL") ;
    }
}
```

Multiple conditions:

```
    int Maths, Physics, Chemistry;
    Maths =50;
    Physics =25;
    Chemistry =45;
if ( Maths >35 && Physics >35 && Chemistry >35){
      System.out.println("Pass"); }
    else{
      System.out.println("Fail") }
  }}
```

Switch method

```
class Jaswant{
    public static Voidmain(String args[ ]){
    int age;
    age = 19;
    (if) switch (age){
    Case 18 :
          System.out.println ("You can Vote now");
          break;
    case 25:
          System.out.println("Marry Now");}
}}
```

default: println("Wait");

Nested if & else if:

```
Class Jaswanth{
    Public static void main(string args[]){
        int age=10;
        if(age >=18){
            system.out.println("VOTE");
        }else{
            system.out.println("Wait");
            if(age<18){
                system.out.println("TOOYOUNG");
            }else{
                system.out.println("Kid")}
    }
}
```

```
class Jaswanth{
    Public static Void main(String args[]){
        int telugu=20;
        int hindi=20;
        if(telugu>35){
            if(hindi>18){
                system.out.println("Pass");
            }else{
                system.out.println("Fail in Hindi");
            }
        }else{
            system.out.println("Fail in Telugu");
        }
}
```

output: Failed in Telugu.

While :

```
class Jaswanth{
    Public static void main(String args[]){
        int x = 0;
        While (x<10){
            System.out.println("Hello");
            x++;
        }
    }
```

Multiple Classes :

```
Public class Reetesh{
    Public void mytext(){        // name of method
        System.out.println("Welcome to SRM");
    }
}
```

In main method

```
class Jaswanth{
    Public static void main(String args[]){
        Reetesh object = new Reetesh();   // Reetesh object
        Reetesh.Object.mytext();
```

Usage of Parameters in class :

```
Public class Reetesh{
    Public void newText(int a, String username){
        System.out.println("Hello" + Username);
    }
}
```

In main method

```
import Java.util Scanner
class Jaswanth {
    Public static void main(string args[]){
        Scanner input =new Scanner(System.in);
        Reetesh usrobj=new Reetesh();
        System.out.println("Enter Your Name");
        String username = input.nextline();

        user obj.newText(username);
    }
}
```

Mini methods / More methods

```
import Java.util.Scanner;

class Jaswanth {
    Public static void main(string args[]){

    Scanner input = new Scanner(System.in);

    Reetesh Reeteshobject =new Reetesh();
    system.out.println("Enter Your Fav movie");
    String xmovie = input.nextline();

    Reeteshobject.Setmovie(xmovie);

    Reeteshobject.Result();

    }

}
```

```
Private class Reetesh {
    Private String movie;        Private string variable
    Public void SetMovie(String movienname){
        movie = movienname;
    }
    Public String getMovie(){      there is no void so its a return type (there is text)
        return movie;
    }
    Public void result(){          takes the argument value
        System.out.printf("Your fav movie is %s",
                          getmovie())
    }
```

Constructors : → usage of same name of class

```
Public Class Reetesh {
    Private String movie;
    Public orange(String x){
        movie = x;
    }
    ---
    ---
    ---
```

main method :

```
class Jaswanth {
    Publics tatic void main(String args[]){
        Reetesh myobject1 = new Reetesh("Bahubali");
        myobject.result();
```

Conditional Operators:

```
class Jaswanth{
    Public static void main (String args[]){
        int age = 25;
        (if (age > 18){)x
        System.out.println(age >=18 (?) "VOTE" : "NOVOTE");
```

Test — True — False

condition

Simple Program:

Average finding

```
import /util/ Java.util.Scanner;
    class Jaswanth{
        Public static void main(String args[]){
        Scanner input = new Scanner (System.in);
        int income, total=0, avgincome;
        int x = 0;
        While (x<10){
            x++;
            System.out.println("Enter your income");
income= input.nextint();
total = total + income;
        }
        avgincome = total/10;
    } System.out.println("You dailyavg income is" +
                                    avgincome);
}
```

For loop:

```
class Jaswanth{
    public static void main(String args[]){

    for(int x = 1; x < 10; x++){
        System.out.println(x + "Hello");
    }
}
```

commenting

2 types: (i) // → Not executed → only for single line

/* ; */ → Whole program (or) multiline

start end close

Compound interest:

```
Class Jaswanth{
    Public static void main(String args[]){
// Formula A = P(1 + R/n)^n => no of year/time/month
                Amount  interest
                Principle (loan)
        double amount;
        double Principal = 50000;
        double rate = 0.02;

        for(int month = 1; month <= 12; month++)
        {
            amount = Principal * Math.pow
                        (1 + rate, month);
        } System.out.println(month + " " + amount);
    }
}
```

DoWhile : → Prints atleast one time even in False condition

```
class Jaswanth{
    Public static void main(String args[]){
        int x=1;
        dod
        System.out.println("Hello");
        x++;
        } While (x<=10);
```

Math Class methods

```
Class Jaswanth{
    Public static void main(String args[]){
```

(i) System.out.println(Math.pow(5, 2));
5 → for which value the power to be taken
2 → Power value
output: 25

(ii) System.out.println(Math.abs(-25.8));
output: 25.8

(iii) System.out.println(Math.Ceil(5.2));
takes only double values
Ceil → round figure
output: 6.0

(iv) Math.floor(5.2) → output: 5.0

(v) math.max(25.3, 23.1) → 25.3

(vi) min (vii) Sqrt

Arrays:

```
class Jaswanth{
    Public static void main(string args[]){
        int Reetesh[] = new int[5]; 5 values  (can store upto)
        Reetesh[0] = 20;
        Reetesh[1] = 12;
        Reetesh[2] = 10;
        Reetesh[3] = 15;
        Reetesh[4] = 25;                    index number
        System.out.println(Reetesh[2]);}}
```

In simple way:

```
int Reetesh[] = {16, 21, 18, 26, 32, 40};
System.out.println(Reetesh[2]);
System.out.println(Reetesh.length);
```

Basic Table using Arrays:

```
class Jaswanth{
    Public static void main(string args[]){
        System.out.println("Index\t Value");   (tab b/w these 2)
        int Reetesh[] = {12, 14, 18, 22, 35, 16};
        for(int i = 0; i < Reetesh.length; i++)
            System.out.println(i + "\t" + orange[i]);
    }
}
```

For loop and Enhanced For loop in Arrays

```
class Jaswanth{
    Public Static void main(String args[]){
    int Reetesh[] = {20,12,25,32,54,85,16,92,92};
    int total =0;
    for(i=0;i<Reetesh.length;i++){
       total = total + Reetesh[i];
    }
   System.out.println("Total:" +total);
  }
}
```

Another method

```
class Jaswanth{
   Public Static void main(String args[]){
    int Reetesh[]={12, 32, 52, 64, 78,95, 100, 125};
    int total=0;
    for(int x : Reetesh){
        total += x
    }
   System.out.println(total);
  }
}
```

identifier takes values / stores of array

array name

Arrays to be used in other methods

```
class Jaswanth{
    Public Static Void main(String args[ ]){

    int Reetesh[ ] = {10, 20, 30, 40, 50};
    Reetu change x (Reetesh); → call this
```

```
Public Static void change x (int Reetu[ ]){
    for(int i =0; i< Reetu.length; i++){
        Reetu[i] += 5
    }
}
```

use of this? => In main method we can create an arrays of form Reetu array =

Multi Dimensional Arrays:

```
class Jaswanth{
    Public Static Void main(String args[ ]){
    int Reetesh[ ][ ]={{20,15,10,22,25},{35,
        row 2 <(25,45,55,65},{3,6,9,12,
            15}}; row 3
    change x (Reetu);
}

Public Static void change x (int Reetu[ ][
    for(int row =0; row< Reetu.length; row++){
        for(int column =0; column< Reetu[row].length;
            c++){
            system out print( Reetu[row][column]
                + "\t");
    }
    System out println( );
}}
```

```
class Jaswanth{
  Public Static void main(String args[]){
    System.out.println(myfntotal(10,20,30));
  }
  Public Static int myfntotal(int a, int b, int c){
    int sum = a+b+c;
    return sum;
  }
}
```

return types

how

we know the no of arguments to pass

But if doesn't know the no of arguments

```
class Jaswanth{
  Public Static void main(String args[]){
    System.out.println(total(10,20,30,40));
  }
  Public Static int total(int... apples){
    int sum = 0;
    for(int i : apples){
      sum += x;
    }
    return sum;
  }
}
```

3 dots

works like array

Time class :

24 hr time

subclass :

```
Public class Reetesh{
    Private hour;
    Private minute;
    Private second;

    Public void SetTime(int hh, int mm, int ss)
    // Set conditional values
    hour = ((hh >= 0 && hh < 24) ? hh : 0);
    minute = ((mm >= 0 && mm < 60) ? mm : 0);
    Second = ((ss >= 0 && ss < 60) ? ss : 0);
    }

    Public String fulltime(){
        return String.format("%02d:%02d:%02d", hour, minute, second);
    }
```

→ 2 decimal values

// 00:00:00

→ regular time (PTO) → Page Turn Over

In main class

```
class Jaswanth
    public static void main(String args[]){
        Reetesh Reetuobj = new Reetesh();
        System.out.println(Reetuobj.fulltime());
        Reetuobj.Settime(15, 52, 42);
        System.out.println(Reetuobj.fulltime());
```

% → reminder

Trick (15 % 10) => result => 15 - 10 = 5 ✓
Big Small

(10 % 15) => result => small value : 10 ✓
Small big

For regular time

```
Public String regular time ( ) {
    return String.format("%d : %02d : %02d %s",
    (hour == 0 || hour == 12) ? 12 : hour % 12, minute, second,
    What's happening? (hour < 12) ? "A.M" : "P.M" );
```

Eg:- 11 % 12 → Time will be 11

12 % 12 → 0 so will be 12.

keywords :

Private :- cant change from any other class and it limits only within the class

this. :=> make / Give first priority

Eg:-
```
Public class Refresh {
    Private int hour   = 59
    Private int minute = 6   } Actually this will have high priority by the point
    Private int second = 14  }

    Public void setTime(int hour, int minute, int second) {
        this.hour = 2      // but to give preference to this
        this.minute = 4    use 'this'.
        this.second = 27
```

multiple Constructors :

```
Public class Reetesh{
    Private int hour;
    Private int min;
    Private int Second;
  Public Reetesh(){
    this(0,0,0); →//default values
  }
  Public (Orange)x Reetesh(int h){
      this(h,0,0);
    }
  Public Reetesh(int h, int m){
      this(h,m,0);
  Public Reetesh(int h, int m, int s){
    x(this(h,m,s);)x
      SetTime(h,m,s);
  }
  Public void SetTime(int h, int m, int s){
    SetHour(h);
    SetMin(m);
    SetSecond(s);
  }
  Public void SetHour(int h){
    hour = ((h>=0&&h<24)?h:0);
  }
  Public void setmin(int m){
    minute = ((m>=0&&m<60)?m:0);
  }
```

```
Public void setSecond (int s){
    Second=((s>=0&& s<60)?s:0);
}

Public int getHour(){
    return hour;
}
Public int getMinute(){
    retur min;
}
Public int getSecond(){
    return Second;
}
/* Public string fulltime(){
    return string.format("%-02d:%-02d:
%-02d", getHour(), getminute(), getSecond());
}
}
```

main class

```
Class Jaswanth{
    Public static void main(String args[]){
    Reetesh myobj1= new Reetesh();
    Reetesh myobj2 = new Reetesh(5);
    Reetesh myobj3 =new Reetesh(6,15);
    Reetesh myobj4 = new Reetesh(11,35,50);
    Reetesh myobj5 =new Reetesh(13,45,70);
}{  System.out.println(myobj4.fullTime());
```

Two - String - method (Inbuilt - method)

```
Public class Reetesh {
    Private int day,
    Private int month;
    Private int year;
    Public Reetesh(int d, int m, int y){
        day = d;
        month = m;
        year = y;
    }
    Public string myString(){
        return string format("%-d /%-d /%-d", day,
                                month, year);
    }
}
```

replace this"
Printf("%s", myString());
System out println(myString()); (or)
tostring() → inbuilt java method

Main class:

```
class Jaswanth {
    public static void main(string args[]){
        Reetesh myObj = new Reetesh(15, 8, 2001);
        system out println(myobj myString());
```

Composition:

create a new class;

```
Public class Praneth {
    Private String name;                          Search for tostring method
    Private Reetish date, birthday;               → Takes from Reetish class
    Public Praneth (String theName, Reetish date birthday ){
        name = theName;
        date birthday = date;
    }
    Public String tostring(){
        return string.format("Your name is %s", Your birthday is %s", name, birthday );
```

main class

```
Pub class Jaswanth {
    public static void main (String args[ ]){
        Reetish myobj = new Reetish(5, 9, 2011);
        Praneth Pranee obj = new Praneth("Pranee
                                myobj(4);
System.out.println (myobj);
system.out.println (Pranee obj);
    }
}
```

Inumaration : (same as classes) and also like arrays

```
Public enum Reetesh {
    Sushanth(" He is in Networking",
"24"),
Roshan(" He is in Medical field", "27"),
Pavan(" He is Web developer", "29");

Private final String Desc;
Privata final string age;
   no need to use "Public"
Reetesh( string userDesc, string userage){
        desc = userdesc;
        age = user age;
  }
  String getDesc(){
return desc;
    }
    string getage(){
    return age;
    }
}
```

main class :

```
class Taswanth {
    Public static void main(string args[]){
    for (Reetesh users: Reetesh.values()){
    System.out.printf("%-5\t%-5\n", users,
                users.getdesc(), users.getage());
    }
}
}
```

Range: (From & To keywords):

```
import java.util.FrumSet;

In main class

        before program
        - - -
        - - -

    System.out.println("\n ___Range___\n");
    for(Reetesh users : FrumSet.range(Reetesh.Sushant
                                      Reetesh.Roshan)){

    Print...
    }
}
}
```

Static variables

```
Public class Reetesh{
    Private string fname;
    Private string lname;
    private static int members;

    public Reetesh(){ string fn, string ln ){
        fname = fn;
        lname = ln;
        members++;
        System.out.printf("Name of member
is %s %s and members in club %d \n", fname,
lname, members); }
    }
```

main class

```
class Jaswanth{
    Public Static Void main( String args[ ]){
        Rutish number1 = new Rutish("Jaswanth",
                                    " Suggula");
    }
}
```

Inheritance : use Public class Rutish "extends" "name" new class {

Graphical-User-Interface (GUI)

```
import Javax.swing.JOptionPane;
Class Jaswanth {
    Public Static void main(String args[ ]){
x(System.out.println("Hello World)x
        String x, y;
        x = JoptionPane.showInputDialog
            ("Enter your first number");
                                    Takes string values
        y = JOptionPane.showInputDialog
            ("Enter yo ur Second Number");
                                    converted to int value
        int fn = Integer.ParseInt(x);
        int Sn = Integer.parseInt(y);
        int total = fn+Sn;
        JOptionPane.showMessageDialog(null,"
        Total is:"+sum," The Title",JOptionPane
        .PLAIN_MESSAGE);
```

will be continued.....