**VARIABLE:Variable is an name and memory location in order to retrieve the data is called variable.variable is an also known as identifier.**

**Ex:int x =10;**

**Here int =datatype**

**X= variable name**

**10=variable name**

**PROGRAM:**

package mani;

public class variable {

public static void main(String[] args) {

int a=10;

System.***out***.println("the integer value="+a);

}

}

**OUTPUT:**

the integer value=10

**OPERATOR:Operator is an specify what operation is an perform an operation.**

**Operation is an symbol of perform an operation**

**OPERAND:**

**Operand is an data which is an particular perform of operation.**

**Operand is an based on three types**

**They are:**

**1.binary operator**

**2.unary operator**

**3.ternary operator**

**1.Binary operator:**

**Binaray operator is an two operand perform particular task is called binary operator**

**Binary operators**

**1.Arithematic operators:**

**1.(+) :addition is combine the two value is called addition**

**2.(-):substraction is an minus of the two values is called substraction**

**3.(\*):multiplication is an used for the multiply into two values**

**4.(/):division is used for divided by an two values.**

**5.(%):moulo division is an used for the remainder is an taken only**

**Program of arithematic opearor:**

package mani;

public class arithematicoperator {

public static void main(String[] args) {

int a=10;

int b=20;

System.***out***.println("the addition value"+(a+b));

System.***out***.println("the substraction value"+(a-b));

System.***out***.println("the multiplication value"+(a\*b));

System.***out***.println("the Division value"+(a/b));

System.***out***.println("the modulo Division value"+(a%b));

}

}

**Output:**

the addition value30

the substraction value-10

the multiplication value200

the Division value0

the modulo Division value10

**RELATIONAL OPRARATORS:Relational operators is an given the output eighther true or false**

**Relational operator are**

**1.>:greterthan**

**2.<:lessthan**

**3.>=:greaterthan equal to**

**4.<=:lessthan equal to**

**4.==:double equal to**

**5.!=:not equal to**

**Program for realational operators:**

package mani;

public class relationaloperators {

public static void main(String[] args) {

int a=10;

int b=20;

System.***out***.println("the greaterthan="+(a>b));

System.***out***.println("the lessthan="+(a<b));

System.***out***.println("the greaterthan equal to="+(a>=b));

System.***out***.println("the less than equal to="+(a<=b));

System.***out***.println("the doble equal to="+(a==b));

System.***out***.println("the greaterthan="+(a!=b));

}

}

**Output:**

the greaterthan=false

the lessthan=true

the greaterthan equal to=false

the less than equal to=true

the doble equal to=false

the greaterthan=true

**3.LOGICAL OPERATORS:**

**There an two types**

**1.and (&&):both true is an true**

**2.or(//):any one true will be true**

**Logical operators are binary operators is an results are coming Boolean**

**NOTE:LOGICAL operator is an only taken for the Boolean data types**

**Program for logical operators:**

package mani;

public class logicaloperators1 {

public static void main(String[] args) {

boolean a=true;

boolean b=false;

System.***out***.println("the logical and="+(a&&b));

System.***out***.println("the logical and="+(a&&a));

System.***out***.println("the logical or="+(a||b));

System.***out***.println("the logical or="+(a||a));

}

}

**Output:**

the logical and=false

the logical and=true

the logical or=true

the logical or=true

**UNARY OPERATOR:  
the unary oerator are two tyepes**

**1.increament operator**

**2.decreament operaor**

**1.increament operator:a++**

**The increamanet operator is an increamnet by 1 is called increamant operaor**

**Two type of increamant operator**

**1.pre increamant operator :++a**

**2.post increament:a++**

**Example program for increament operator:**

public class increamentoperaor {

public static void main(String[] args) {

int a=10;

int b=(a++)+(++a)+(a++);

System.***out***.println("the value of b:"+b);

System.***out***.println(a"the value of a:"+a);

}

}

**Output:**

the value of b:34

the value of a:13

**2.Decreamanet operaor:**

**The decreamnet operator is an decreament by 1 is called dicreament operator**

**The decreamanet operator is an two types**

**1.pre decreament:++a**

**2.post decreament:a++**

**Example program for decreament operator:**

public class increamentoperaor {

public static void main(String[] args) {

int a=10;

int b=(a--)+(--a)+(a--);

System.***out***.println("the value of b:"+b);

System.***out***.println("the value of a:"+a);

}

}

**Output:**

the value of b:26

the value of a:7

**DATA TYPE:**

**Data type is an mechanism of specify what data finding stored the data is called is Datatype**

**Data type is an two types:**

**1.premitive data type**

**2.non primitive datatype**

**1.premitive datatypes types:**

**1.byte**

**2.short**

**3.int**

**4.long**

**4.float**

**5.boolean**

**5.char**

**1.Byte:**

**1Byte=8bits**

**Range stored an Byte**

**Min=-128**

**Max=-127**

**Example [program for byte:**

public class byteoperator {

public static void main(String[] args) {

byte a=10;

byte a=127;

byte a=-128;

/ error:\*byte a=128; here incomatable data type:possible loss from int to byte\*/

//bye a=-130/\* // error:\*byte a=128; here incomatable data type:possible loss from int to byte\*/

//byte a=130;

//byte a=true;//Boolean is an not converted byte

System.***out***.println("the value a="+a);

}

}

**OUTPUT:**

**a=10**

**a=127**

**a=-128**

**Short:**

**2Byte=16bits**

**Range stored an Byte**

**Min=-32768**

**Max=32767**

**Example program:**

public class shortoperator {

public static void main(String[] args) {

short a=10;

short a=-32768;

short a=32767;

/ error:\*byte a=128; here incomatable data type:possible loss from int to byte\*/

//bye a=-32769/\* // error:\*byte a=128; here incomatable data type:possible loss from int to byte\*/

//short a=32769;

//short a=true;//Boolean is an not converted byte

System.***out***.println("The value a="+a);

}

}

**OUTPUT:**

**The value a=10**

**The value a=-32768**

**The value a=32767**

**3.int**

**4Byte=32bits**

**Range stored an Byte**

**Min=-2147483648**

**Max=2147483647**

class shortoperator {

public static void main(String[] args) {

int a=10;

int a=-2147483648;

int a=2147483647;

/ error:\*int a=2147483649; here incompatable data type:possible loss from int to byte\*/

//int a=-2147483649/\* // error:\*byte a=128; here incompatable data type:possible loss from int to byte\*/

//short a=32769;

//short a=true;//Boolean is an not converted byte

System.***out***.println("The value a="+a);

}

}

**OUTPUT:**

(The value a=10

(The value a=-2147483648

(The value a=2147483647+

**3.LONG**

**16Byte=64bits**

**Range stored an Byte**

**Min=**

**Max=**

**Example program:**

**class longdatatype{**

**public static void main(String[]args)**

**{**

**long l=900000000000000l;**

**System.out.println(“the long datatype=”+l);**

**}**

**}**

**Output:**

**The long datatype=900000000000000**

**Float:**

**The float is an decimal number**

**The float is size 4**

**The float is an singleprecisions 4 to 6**

**the float is an primitive datatype**

**the float is an denoted by suffix**

**ex=a=10.34f**

**example program for float:**

**class floatdatatype{**

**public static void main(String[]args)**

**{**

**Float f=10.24f;**

**System.out.println(f);**

**OUTPUT:**

**10.24**

**CHARACTER:**

**Min=0**

**Max=35565**

**THE CHARACTER IS AN taken only one one alphabet with single quoatation.**

**Ex:**

**Class characterdemo{**

**Public static void main(String[]args)**

**{**

**char c=’a’;**

**char a=65;**

**System.out.println(“the display on char value=”+c);**

**System.out.println(“the display of the value=”+a);**

**}**

**}**

**OUTPUT:**

**The display on char value=a**

**The display of the value=A**

**Boolean datatype:**

**The Boolean datatype is an taken eighther true or flase is called Boolean**

**Datatype**

**Class booleandatatype{**

**Public static void main(String[]args)**

**{**

**boolean b=true;**

**boolean d=True; //error**

**Boolean e=False //error**

**boolean c=false;**

**System.out.println(“the Boolean data type=”+b);**

**System.out.println(“the Boolean data type=”+c);**

**}  
}**

**OUTPUT:**

**the Boolean data type=true**

**the Boolean data type=false**

**TYPE CASTING:**

**The typecasting is an changing one datatype to another data type is called typecasting**

**Typecasting are two types:**

**1.implicity**

**2.explicity**

**1.implicity:**

**\*The implicity is an automatically complier execution**

**\*the implicity is an conversion of lower to higher datatype**

**\*the implicity is also known as WIDENING**

**Ex: int = byte**

**2.Explicity:**

**\*The Explicity is an automatically complier execution**

**\*the Explicity is an conversion of lower to higher datatype**

**\*the implicity is also known as NARROWING**

**Ex: int = byte**

**EXAMPLE PROGRAM TYPECASTING:**

**class typecasting{**

**public static void main(String[]args)**

**{**

**byte b=20; // WIDENNING**

**int c=b;**

**System.out.println(c);**

**int d=2147483647; //NARROWING**

**byte e=byte(d);**

**System.out.print(c);**

**System.out.println(e);**

**}**

**}**

**OUTPUT:**

20

-1

**USER REQUIREMENT PROGRAMS:**

package mani;

import java.util.Scanner;

public class method1 {

public static void main(String[] args) {

System.***out***.println("Hello, World!");

Scanner scan=new Scanner(System.***in***);

System.***out***.println("enter an a and b value");

int a=scan.nextInt();

int b=scan.nextInt();

int sum=a+b;

System.***out***.println("the value of sum="+sum);

byte c=scan.nextByte();

System.***out***.println("the user of input byte="+c);

System.***out***.println(a-b);

}

}

**Output:**enter an a and b value

45

45

the value of sum=90

4

the user of input byte=4

0

**METHODS:**

**Method is an setoff instsructions/statement perform particular task is called method**

**Methods are 4types**

**1.merthods are doesn’t expect parameters and doesn’t written return value**

**2.methods are doesn’t expect parameters and with return value**

**3.methods are with parameter and without wriiten return any value**

**4.methods are with parameter and with written return value**

**1.NO PARAMETER AND NO RETURN VALUE**

**Example program**

public class method1 {

public static void main(String[] args) {

System.***out***.println("method is an starting");

*greet*();

System.***out***.println("method is an ended");

}

static void greet() {

System.***out***.println("greet method are staring");

System.***out***.println("good afterNoon");

System.***out***.println("greet() is ended");

}

}

**Output:**

method is an starting

greet method are staring

good afterNoon

greet() is ended

method is an ended

**2.WITHOUT PARAMETER AND WITH RETURN VALUE**

public class method1 {

public static void main(String[] args) {

System.***out***.println("method is an starting");

int result= *greet*();

System.***out***.println("the result are="+result);

}

static int greet() {

System.***out***.println("greet method are staring");

int a=10;

int b=20;

int sum=a+b;

return sum;//sum taken integer datatype but method definition take integer only return any value create assignment operator for the method call

}

}

**OUTPUT:**

method is an starting

greet method are staring

the result are=30

**3.PARAMETER BUT NO RETURN VALUE:**

public class method1 {

public static void main(String[] args) {

System.***out***.println("main method is an started");

int a=10;

int b=30;

*add*(a,b);

System.***out***.println("the with parameter and without return value");

}

static void add(int a,int b)

{

int sum=a+b;

System.***out***.println("the value of sum="+sum);

}

}

**OUTPUT:**

main method is an started

the value of sum=40

the with parameter and without return value

**4.WITH PARAMETER AND WITH RETURN VALUE**

**Example program**

public class method1 {

public static void main(String[] args) {

System.***out***.println("main method is an started");

int a=10;

int b=30;

int result=*add*(a,b);

System.***out***.println("the with parameter and without return value"+result);

}

static int add(int a,int b)

{

int sum=a+b;

return sum;//sum is taken intger but method definition must take integer only

}

}

**OUTPUT:**

main method is an started

the with parameter and without return value40

**OBJECTS:**

**OBJECT IS REAL TIME SLVING PROBLEMS WITH PROGRAM**

**Object is an collection instanceous of a class is called object.**

**Object is an new key keyword created an object in heap memory**

**Object :**

**State behaviour**

**Properties action()**

**Attributes memberfunction()**

**Example:window:**

**State=size,width,height,color**

**Member functions=open,close**

**Example program objects:**

**1.1st create an class is an blueprint of the object.**

**2.object is class create an states(attributes)and behavvior**

**3.next write an main method after create new keyword is create on object on heap memory**

package java1;

public class objects {

int id;//states

String name;

double cgpa;

void study() {

System.***out***.println("the studying timing are=3 hours");

}

//behaviour void attendance() {

System.***out***.println("the attendnace=40");

}

public static void main(String[]args) {

objects o1=new objects();

o1.id=1234;

o1.name="subramanyam";

o1.cgpa=90.09;

o1.study();

o1.attendance();

System.***out***.println(o1.id);

System.***out***.println(o1.name);

System.***out***.println(o1.cgpa);

}

}

**Output:**the studying timing are=3 hours

the attendnace=40

1234

subramanyam

90.09

**Constructor:**

**Constructor is an same class create an obeject initaialize state of the object is called constructor.there is no return type..**

* **Constructor using this keyword that means create an current object;**

**The object and constructor same values but not execution but error is Shadowing by using this keyword;**

**Example program:**

**class HelloWorld {**

**String name;**

**int id;**

**double cgpa;**

**void study(){**

**System.out.println("the enter a value");**

**}**

**HelloWorld(String name,int id,double cgpa){//constructor no return value**

**this.name=name;**

**this.id=id;**

**this.cgpa=cgpa;**

**}**

**public static void main(String[]args){**

**HelloWorld s1=new HelloWorld("mani",200,30.90);//constructor**

**s1.study();**

**System.out.println(s1.name);**

**System.out.println(s1.id);**

**System.out.println(s1.cgpa);**

**}**

**}**

**OUTPUT:  
the enter a value**

**Mani**

**200**

**30.90**

**Control constructor:**

**1.the flow of the execution the program is called control statement**

**3 types:**

**1.selection statement/conditions statements**

**2.looping/iterarive statements**

**3.jumping statements**

**1.conditional statements:**

**The condition is an true execution on only time is called conditional statements.**

**Types of conditional staements:**

**1.if**

**2.if else**

**3.if else ladder**

**4.Switch-case**

**2.Looping statements:**

**The condition is an true execution on many times is called as lopping statements/iterative satements.**

**1.for**

**2.while**

**3.do-while**

**3.jump:**

**The flow of execution with in loops an Switchsatements**

**1.break**

**2.continue**

**3.Return**

**1.conditional statements:**

**Write an javaprogram to welcome students to the techfest those who are score morethan 90percentage**

**Example program:**

import java.util.Scanner;

public class moretahn90percentageusingifcondition {

public static void main(String[] args) {

System.***out***.println("the condition is an if statement");

Scanner s1=new Scanner(System.***in***);

int a=s1.nextInt();

if(a>90) {

System.***out***.println("the welcome to students on techfest");

}

}

}

**OUTPUT:**

the condition is an if statement

91

the welcome to students on techfest

**2.CHECK PERSON ELIGIBLE FOR VOTING**

import java.util.Scanner;

public class moretahn90percentageusingifcondition {

public static void main(String[] args) {

System.***out***.println("the condition is an if statement");

Scanner s1=new Scanner(System.***in***);

int age=s1.nextInt();

if(age>18) {

System.***out***.println("the eligible for the voting");

}

}

}

**OUTPUT:**

the condition is an if statement

19

the eligible for the voting

**\*EvenOrOdd:**

package java1;

import java.util.Scanner;

public class practiceeveryday {

public static void main(String[] args) {

Scanner s1=new Scanner(System.***in***);

System.***out***.println("the eneter the value");

int n=s1.nextInt();

if(n%2==0) {

System.***out***.println("n is an even");

}

else {

System.***out***.println("n is an odd");

}

}

}

**OUTPUT:**

the eneter the value

2

n is an even

**LEPAYEARORNOT:**

package java1;

import java.util.Scanner;

public class practiceeveryday {

public static void main(String[] args) {

Scanner s1=new Scanner(System.***in***);

System.***out***.println("the eneter the value");

int n=s1.nextInt();

if(n%4==0) {

System.***out***.println("given number leap year ");

}

else {

System.***out***.println("given number not leap year");

}

}

}

the eneter the value

2012

the character is an leap year

**VowelsOrConsonants:if else**

package java1;

import java.util.Scanner;

public class practiceeveryday {

public static void main(String[] args) {

Scanner s1=new Scanner(System.***in***);

System.***out***.println("the eneter the value");

char c=s1.next().charAt(0);

if(c=='a'||c=='e'||c=='i'||c=='o'||c=='u') {

System.***out***.println("the character is an vowels");

}

else {

System.***out***.println("the character is an consonants");

}

}

}

**OUTPUT:**

the eneter the value

a

the character is an vowels

Z

The character is an consonant

**Else if using vowels orConsant:**

**The condition are two or more using conditions is true executed an true statement**

package java1;

import java.util.Scanner;

public class practiceeveryday {

public static void main(String[] args) {

Scanner s1=new Scanner(System.***in***);

System.***out***.println("the enter the character");

char c=s1.next().charAt(0);

if(c=='a') {

System.***out***.println("the character is an vowels");

}

else if(c=='e') {

System.***out***.println("the character is an vowels");

}

else if(c=='i') {

System.***out***.println("the character is an vowels");

}

else if(c=='o') {

System.***out***.println("the character is an vowels");

}

else if(c=='u') {

System.***out***.println("the character is an vowels");

}

else {

System.***out***.println("the character is an consonant");

}

}}

**OUTPUT:**

the enter the character

a

the character is an vowels

Z

The character is an consonant

**THE LARGEST VALUE USING ELSE IF STATEMENT**

package java1;

import java.util.Scanner;

public class practiceeveryday {

public static void main(String[] args) {

Scanner s1=new Scanner(System.***in***);

int a=s1.nextInt();

int b=s1.nextInt();

int c=s1.nextInt();

if(a>b&&a>c) {

System.***out***.println("The a is an large");

}

else if(b>c) {

System.***out***.println("the b is an large");

}

else {

System.***out***.println("the c is an larges");

}

}

}

**OUTPUT:**

10

20

30

the c is an larges

**SWITCH STATEMENT:**

**1.VOWELS OR CONSONANT:**

package java1;

import java.util.Scanner;

public class practiceeveryday {

public static void main(String[] args) {

Scanner s1=new Scanner(System.***in***);

char c=s1.next().charAt(0);

switch(c) {

case 'a':System.***out***.println("the character is an vowels");break;

case 'e':System.***out***.println("the character is an vowels");break;

case 'i':System.***out***.println("the character is an vowels");break;

case 'o':System.***out***.println("the character is an vowels");break;

case 'u':System.***out***.println("the character is an vowels");break;

default:System.***out***.println("the character is an Consonant");

}

}

}

a

the character is an vowels

**2.Rainbowcolor:vibgor**

package java1;

import java.util.Scanner;

public class practiceeveryday {

public static void main(String[] args) {

Scanner s1=new Scanner(System.***in***);

char c=s1.next().charAt(0);

switch(c) {

case 'v':System.***out***.println("the violet is an rainbow");break;

case 'i':System.***out***.println("the indicate is an rainbow");break;

case 'b':System.***out***.println("the blue is an rainbow");break;

case 'g':System.***out***.println("the green is an rainbows");break;

case 'o':System.***out***.println("the orange is an rainbow");break;

default:System.***out***.println("the not color in rainbow");

}

}

}

**OUTPUT:**

o

the orange is an rainbow