Java Examples

aim:-Getting start java
1.SampleApp.java

```
public class SampleApp
{
	public static void main(String args[])
	{
		System.out.println("This is my first application");
	}
}
```

aim:-Understanding properties & methods
2.HowedyWorld.java

```
class HowdyWorld {
  public static void main (String args[]) {
    int i;
    printMessage();
  }
  public static void printMessage () {
    int j;
    System.out.println("Howdy, World!");
  }

}
```

aim:-Understanding basic operators in java
3.OperatorsExample.java

```
public class OperatorsExample
{
	public static void main(String args[])
	{
		int no=3,a=2,b=3;
		no=no+1;
		no=no-1;
		no=no*2;
		no=no/2;
		no=no%2;
		no++;
		++no;
```

```
                no +=4;                 //no=no+4
                no -=4;
                no *=2;
                no /=2;
                no %=2;
                no--;
                --no;
                a=~a;           //NOT
                a=a&b;          //AND
                a=a|b;//OR
                a=a^b;//XOR
                a=8;
                a=a>>3;         //Shift right
                a=2;
                a=a<<3;         //Shift left
        }
}
```

4.Bitwise.java

```
class Bitwise {
  public static void main (String args[]) {
    int x = 5, y = 6;
    System.out.println("x = " + x);
    System.out.println("y = " + y);
    System.out.println("x & y = " + (x & y));
    System.out.println("x | y = " + (x | y));
    System.out.println("x ^ y = " + (x ^ y));
  }

}
```

5.BitwiseCompliment.java

```
class BitwiseComplement {
  public static void main (String args[]) {
    int x = 8;
    System.out.println("x = " + x);
    int y = ~x;
    System.out.println("y = " + y);
  }

}
```

6.Negation.java

```
class Negation {
  public static void main (String args[]) {
    int x = 8;
```

```
    System.out.println("x = " + x);
    int y = -x;
    System.out.println("y = " + y);
  }

}
```

7.Shift.java

```
class Shift {
  public static void main (String args[]) {
    int x = 7;
    System.out.println("x = " + x);
    System.out.println("x >> 2 = " + (x >> 2));
    System.out.println("x << 1 = " + (x << 1));
    System.out.println("x >>> 1 = " + (x >>> 1));
  }


}
```

8.Concaternation.java

```
class Concatenation {
  public static void main (String args[]) {
    String firstHalf = "What " + "did ";
    String secondHalf = "you " + "say?";
    System.out.println(firstHalf + secondHalf);
  }

}
```

aim:-Understanding visibility of variables

9.Visibility.java

```
public class Visibility
{
        public static void main(String args[])
        {
                block1:         //This is a Label
                {
                        int gvar=100;
                        block2:
                        {
                                int lvar=200;
                                System.out.println("Global variable"+gvar);
                                System.out.println("Local variable"+lvar);
                        }
                }
```

```
                gvar=gvar+1;
                System.out.println("Global variable"+gvar);
                lvar=lvar+1;  //Error
        }
}
```

10.Visibility2.java

```
public class Visibility2
{
        public static void main(String args[])
        {
                block1:         //This is a Label
                {
                        int gvar=100;
                        block2:
                        {
                                int lvar=200;
                                System.out.println("Global variable"+gvar);
                                System.out.println("Local variable"+lvar);
                        }
                }
                gvar=gvar+1;
                System.out.println("Global variable"+gvar);
                //lvar=lvar+1;//Error
        }
}
```

11.Visibility3.java

```
public class Visibility3
{
        public static void main(String args[])
        {
                block1:         //This is a Label
                {
                        int gvar=100;
                        block2:
                        {
                                int lvar=200;
                                System.out.println("Global variable"+gvar);
                                System.out.println("Local variable"+lvar);
                        }
                        gvar=gvar+1;
                        System.out.println("Global variable"+gvar);
                        //lvar=lvar+1;//Error
                }
        }
```

```
}
```

aim:-Basic conditional statements

12.Conditional.java

```
class Conditional {
  public static void main (String args[]) {
    int x = 0;
    boolean isEven = false;
    System.out.println("x = " + x);
    x = isEven ? 4 : 7;
    System.out.println("x = " + x);
  }

}
```

13.Comp.java

```
public class Comp
{
        public static void main(String args[])
        {
                int no1=19;
                int no2=10;
                if (no1<no2)
                                                        System.out.println("Number one is
grater than Number two");
                else
                                System.out.println("Number Two is grater than Number
one");
        }
}
```

14.Comp2.java

```
public class Comp2
{
        public static void main(String args[])
        {
                int no=10;
                switch (no)
                {
                        case 10:
                                no=no+10;
                                break;
                        case 12:
                                no=no+12;
                                break;
                        case 13:
```

```
                        no=no+13;
                        break;
                case 14:
                        no=no+14;
                        break;
                case 15:
                        no=no+15;
                        break;
                default:
                        no=no+20;
                        break;
                }
        }
}
```

15.Branching_ex.java

```
class Branching_ex
{
        public static void main(String args[])
        {
                int x,y,z;
                x=1;
                y=10;
                z=6;
                test:
                        while (x!=z)
                        {
                                x=x+1;
                                y=y-1;
                                System.out.println("x="+x);
                                System.out.println("y="+y);
                                if (x==y)
                                        {
                                                continue test;
                                        }
                        }

        }
}
```

aim:-Basics loops in java

16.loopWhile.java

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

```
        {
                int no=100;
                while (no<=200)
                {
                        no=no+1;
                        System.out.println(no);
                }
        }
}
```

17.loopDo.java

```
public class loopDo
{
        public static void main(String args[])
        {
                int no=100;
                do
                {
                        no=no+1;
                        System.out.println(no);
                }while(no<=200);
        }
}
```

18.loopFor.java

```
public class loopFor
{
        public static void main(String args[])
        {
                int no;
                for (no=100;no<200;no++)
                {
                        System.out.println(no);
                }
        }
}
```

19.BreakLoop.java

```
class BreakLoop {
  public static void main (String args[]) {
    int i = 0;
    do {
      System.out.println("I'm stuck!");
      i++;
      if (i > 100)
        break;
```

```
   }
   while (true);
  }

}
```

aim:-Comparing variables and objects

20.Compint.java

```
class compint
{
        public static void main(String args[])
        {
                int x=33;
                int y=33;
                if (x==y)
                        System.out.println("Equal");
                else
                        System.out.println("Not Equal");
        }
}
```

21.compInteger,java

```
class compInteger
{
        public static void main(String args[])
        {
                Integer x=new Integer(33);
                Integer y=new Integer(33);

                if (x==y)
                        System.out.println("Equal");
                else
                        System.out.println("Not Equal");
        }
}
```

22.compInteger1.java

```
class compInteger1
{
        public static void main(String args[])
        {
                Integer x=new Integer(33);
                Integer y=new Integer(33);

                if (x.equals(y))
                        System.out.println("Equal");
```

```
                else
                        System.out.println("Not Equal");
        }
}
```

aim:-More about properties, methods & constructors

23.Item.java

```
class Item
{
        private int itemno;
        private String description;
        private float rate;
        private int qoh;
        private int rol;
        public void display()
        {
                System.out.println("Item Details");
                System.out.println("_____________");
                System.out.println("Item Number                                     : "+itemno);
                System.out.println("Description                                    :
"+description);
                System.out.println("Rate
        : "+rate);
                System.out.println("Quentity On Hand            : "+qoh);
                System.out.println("Reoder Level                        : "+rol);
        }
        public void changeQOH(int qty,char status)
        {
                if (status=='A')
                        qoh=qoh+qty;
                else
                        if (status=='S')
                                qoh=qoh-qty;
        }
        public void acceptDetails(int ino,String desc,float rt,int qty,int reoder)
        {
                itemno=ino;
                description=desc;
                rate=rt;
                qoh=qty;
                rol=reoder;
        }
        public static void main(String args[])
        {
                Item I=new Item();
                String d=new String("Nuts and Bolts");
```

```
                I.acceptDetails(1,d,(float)23.56,100,23);
                I.display();
                I.changeQOH(20,'A');
                I.display();
                I.changeQOH(15,'S');
                I.display();
        }
}
```

24.Item1.java

```
class Item1
{
        private int itemno;
        private String description;
        private float rate;
        private int qoh;
        private int rol;
        public void display()
        {
                System.out.println("Item Details");
                System.out.println("_____________");
                System.out.println("Item Number                                     : "+itemno);
                System.out.println("Description                                    :
"+description);
                System.out.println("Rate
        : "+rate);
                System.out.println("Quentity On Hand            : "+qoh);
                System.out.println("Reoder Level                        : "+rol);
        }
        public void changeQOH(int qty,char status)
        {
                if (status=='A')
                        qoh=qoh+qty;
                else
                        if (status=='S')
                                qoh=qoh-qty;
        }
        public void acceptDetails(int ino,String desc,float rt,int qty,int reoder)
        {
                itemno=ino;
                description=desc;
                rate=rt;
                qoh=qty;
                rol=reoder;
        }
        Item1()
```

```
	{
		itemno=0;
		description=null;
		rate=0.0f;
		qoh=0;
		rol=0;
	}
	Item1(String str)
	{
		itemno=0;
		description=str;
		rate=0.0f;
		qoh=0;
		rol=0;
	}
}
```

TryItem.java

```
import Item1;
class TryItem
{
	public static void main(String args[])
	{
		Item1 I=new Item1();
		I.display();

		String d=new String("Nuts & Bolts");
		Item1 J=new Item1(d);
		J.display();
	}
}
```

25.Item2.java

```
class Item2
{
	private int itemno;
	private String description;
	private float rate;
	private int qoh;
	private int rol;
	public void display()
	{
		System.out.println("Item Details");
		System.out.println("_____________");
		System.out.println("Item Number                                    : "+itemno);
```

```
                System.out.println("Description                                    :
"+description);
                System.out.println("Rate
        : "+rate);
                System.out.println("Quentity On Hand          : "+qoh);
                System.out.println("Reoder Level                    : "+rol);
        }
        public void changeQOH(int qty,char status)
        {
                if (status=='A')
                        qoh=qoh+qty;
                else
                        if (status=='S')
                                qoh=qoh-qty;
        }
        public void acceptDetails(int ino,String desc,float rt,int qty,int reoder)
        {
                itemno=ino;
                description=desc;
                rate=rt;
                qoh=qty;
                rol=reoder;
        }
}
```

TryItem2.java

```
import Item2;

class TryItem2
{
        public static void main(String args[])
        {
                Item2 I=new Item2();
                String d=new String("xxxx");
                I.acceptDetails(1,d,(float)23.56,100,23);
                I.display();
                I.changeQOH(20,'A');
                I.display();
                I.changeQOH(15,'S');
                I.display();
        }
}
```

aim:-Super classes, sub classes & inheritance

26.Printer.java

```
import Item1;
//Define Printer class
class Printer extends Item1
{
	String type;
	int ppm;

	Printer()
	{
		super();
		type=null;
		ppm=0;
	}

	Printer(int ino,String desc,float rt,int qty,int reoder,String type,int ppm)
	{
		super(desc);
		this.type=type;
		this.ppm=ppm;
	}
	public void display()
	{
		super.display();	//calling super cllass
		System.out.println("Type of Printer		:"+type);
		System.out.println("Page per minute		:"+ppm);
	}
}
```

TryInherit.java

```
import Printer;

class TryInherit
{
	public static void main(String args[])
	{
		Item1 I=new Item1();
		I.acceptDetails(1,"Mouse",23.56f,100,23);
		I.display();
		Printer P=new Printer();
		P.acceptDetails(2,"Inkjet Printer",63.56f,100,23);
		P.type="6P";
		P.ppm=7;
		P.display();

	}
}
```

aim:-Learn about polymorphism

27.Polymophsm_Ex.java

```
class Polymophsm_Ex
{
	public void display(int x)
	{
		System.out.println("Call First method x="+x);
	}
	public void display(int x, String s)
	{
		System.out.println("Call Second method x="+x);
		System.out.println("The String value s="+s);
	}
}
```

TryPoly_Ex.java

```
import Polymophsm_Ex;

class TryPoly_Ex
{
	public static void main(String args[])
	{
		Polymophsm_Ex i=new Polymophsm_Ex();
		i.display(30);
		String d=new String("JANAKA");
		i.display(45,d);
	}
}
```

aim:-Inputs in java

28.Input_Ex.java

```
import java.io.*;

class Input_Ex
{
	public static void main(String args[])
	{
		int i=0;
		while (i==0)
		{
			try
			{
				i=System.in.read();
			}catch(IOException e)
			{}
```

```
                }

                System.out.println("You typed  "+(char)i);
        }
}
```

aim:-Arrays, public, private, protected & static

29.keeper.java

```
class Arr
{
        public int array1[];

        Arr()
        {
                array1=new int [5];
                for(int ctr=0; ctr<5; ctr++)
                {
                        array1[ctr]=ctr*ctr+1;
                }

        }
}

public class keeper
{
        public static void main(String args[])
        {
                Arr obj1=new Arr();
                for (int ctr=0; ctr<5; ctr++)
                {
                        System.out.println("The element number"+ctr+"is
:"+obj1.array1[ctr]);
                }
        }
}
```

30.keeper1.java

```
class Arr1
{
        public int array1[];

        Arr1()
        {
```

```
		array1=new int [5];
		for(int ctr=0; ctr<5; ctr++)
		{
			array1[ctr]=ctr*ctr+1;
		}

	}
	public void disp_Elements()
	{
		for (int ctr=0; ctr<5; ctr++)
		{
			System.out.println("The element number"+ctr+"is :"+array1[ctr]);
		}
	}

}

public class keeper1
{
	public static void main(String args[])
	{
		Arr1 obj1=new Arr1();
		obj1.disp_Elements();
	}
}
```

31.keeper2.java

```
class Arr2
{
	private int array1[];

	Arr2()
	{
		array1=new int [5];
		for(int ctr=0; ctr<5; ctr++)
		{
			array1[ctr]=ctr*ctr+1;
		}

	}
}

public class keeper2
{
	public static void main(String args[])
	{
```

```
		Arr2 obj1=new Arr2();
		for (int ctr=0; ctr<5; ctr++)
		{
			System.out.println("The element number"+ctr+"is
:"+obj1.array1[ctr]);
		}
	}
}
```

32.keeper3.java

```
class Arr3
{
	private int array1[];

	Arr3()
	{
		array1=new int [5];
		for(int ctr=0; ctr<5; ctr++)
		{
			array1[ctr]=ctr*ctr+1;
		}

	}
	public void disp_Elements()
	{
		for (int ctr=0; ctr<5; ctr++)
		{
			System.out.println("The element number"+ctr+"is :"+array1[ctr]);
		}
	}

}

public class keeper3
{
	public static void main(String args[])
	{
		Arr3 obj1=new Arr3();
		obj1.disp_Elements();
	}
}
```

33.keeper4.java

```
class Arr4
{
	protected int array1[];
```

```
        Arr4()
        {
                array1=new int [5];
                for(int ctr=0; ctr<5; ctr++)
                {
                        array1[ctr]=ctr*ctr+1;
                }

        }
        public void disp_Elements()
        {
                for (int ctr=0; ctr<5; ctr++)
                {
                        System.out.println("The element number"+ctr+"is :"+array1[ctr]);
                }
        }

}

class Tot_Arr extends Arr4
{
        int tot;
        void calc_Tot()
        {
                for(int ctr=0; ctr<5; ctr++)
                        tot=tot+array1[ctr];
                System.out.println("The sum of the elements of the array is : "+tot);
        }
}

public class keeper4
{
        public static void main(String args[])
        {
                Arr4 obj1=new Arr4();
                obj1.disp_Elements();

                Tot_Arr tobj1=new Tot_Arr();
                tobj1.calc_Tot();
        }
}
```

34.keeper5.java

```
class Arr5
{
```

```
        private int array1[];

        Arr5()
        {
                array1=new int [5];
                for(int ctr=0; ctr<5; ctr++)
                {
                        array1[ctr]=ctr*ctr+1;
                }

        }
        public void disp_Elements()
        {
                for (int ctr=0; ctr<5; ctr++)
                {
                        System.out.println("The element number"+ctr+"is :"+array1[ctr]);
                }
        }

}

class Tot_Arr1 extends Arr5
{
        int tot;
        void calc_Tot()
        {
                for(int ctr=0; ctr<5; ctr++)
                        tot=tot+array1[ctr];
                System.out.println("The sum of the elements of the array is : "+tot);
        }
}

public class keeper5
{
        public static void main(String args[])
        {
                Arr5 obj1=new Arr5();
                obj1.disp_Elements();

                Tot_Arr1 tobj1=new Tot_Arr1();
                tobj1.calc_Tot();
        }
}
```

35.keeper6.java

```
class Arr6
```

```
{
        public int array1[];

        Arr6()
        {
                array1=new int [5];
                for(int ctr=0; ctr<5; ctr++)
                {
                        array1[ctr]=ctr*ctr+1;
                }

        }
        public void disp_Elements()
        {
                for (int ctr=0; ctr<5; ctr++)
                {
                        System.out.println("The element number"+ctr+"is :"+array1[ctr]);
                }
        }

}

class Tot_Arr2 extends Arr6
{
        int tot;
        void calc_Tot()
        {
                for(int ctr=0; ctr<5; ctr++)
                        tot=tot+array1[ctr];
                System.out.println("The sum of the elements of the array is : "+tot);
        }
}

public class keeper6
{
        public static void main(String args[])
        {
                Arr6 obj1=new Arr6();
                obj1.disp_Elements();

                Tot_Arr2 tobj1=new Tot_Arr2();
                tobj1.calc_Tot();
        }
}
```

36.keerper7.java

```
class Arr7
{
	protected int array1[];

	Arr7()
	{
		array1=new int [5];
		for(int ctr=0; ctr<5; ctr++)
		{
			array1[ctr]=ctr*ctr+1;
		}

	}
}

public class keeper7
{
	public static void main(String args[])
	{
		Arr7 obj1=new Arr7();
		for (int ctr=0; ctr<5; ctr++)
		{
			System.out.println("The element number"+ctr+"is
:"+obj1.array1[ctr]);
		}
	}
}
```

37.Static_ex.java

```
class Static_ex
{
	static int x=1;

	public static void main(String args[])
	{

		for(x=1; x<100; x++)
			System.out.println("First loop : "+x);
		for(x=3; x<200; x++)
			System.out.println("Second loop : "+x);
		System.out.println("Out of loops : "+x);
	}
}
```

38.static_block.java

```
class static_block
{
	static int a=10;
	static
	{
		System.out.println("Static bolck : "+a);
	}

	public static void main(String args[])
	{
		System.out.println("Main method : "+a);
	}
}
```

aim:-Abstract classes

39.Library.java

```
abstract class Book
{
	String title;
	int year;

	Book(String bname,int yr)
	{
		title=bname;
		year=yr;
	}

	abstract void show_Details();
}

class Phone_Book extends Book
{
	String location;
	String type;

	Phone_Book(String bname, int yr, String loc, String typ)
	{
		super(bname, yr);
		location=loc;
		type=typ;
	}

	void show_Details()
	{
		System.out.println("The name of the book is : "+title);
		System.out.println("The year of publication is : "+year);
```

```
                System.out.println("The location is : "+location);
                System.out.println("The type is : "+type);
        }
}

class Novel extends Book
{
        String style;
        String language;
        String author;

        Novel(String bname, int yr, String st, String lng, String aut)
        {
                super(bname, yr);
                style=st;
                language=lng;
                author=aut;
        }

        void show_Details()
        {
                System.out.println("The name of the book is : "+title);
                System.out.println("The year of publication is : "+year);
                System.out.println("The style is : "+style);
                System.out.println("The language is : "+language);
                System.out.println("The author is : "+author);
        }
}

public class Library
{
        public static void main(String args[])
        {
                Book book_ph=new Phone_Book("Tata Yellow
Pages",1991,"Delhi","Businuss");
                book_ph.show_Details();
                Book book_nov=new Novel("Ana
Karenina",1878,"Phycological","English","Tolstoy");
                book_nov.show_Details();
        }
}
```

aim:-Interfaces
40.PaySlip.java

```
interface CalcPay
```

```
{
        final String company_name="SuperSoft Ltd";

        public int calc_HRA();
        public float calc_Tax();
        public float calc_Bonus();
        public float calc_Super_Annuation();
        public float calc_Gross();

}

class Employee
{
        protected int e_id;
        String ename;
        protected int basic;

        Employee(int meid, String name, int mbasic)
        {
                e_id=meid;
                ename=name;
                basic=mbasic;
        }
}

class Clerk extends Employee implements CalcPay
{
        Clerk(int seid, String sname, int sbasic)
        {
                super(seid, sname, sbasic);
        }

        public int calc_HRA()
        {
                if(basic<1000)
                        return(500);
                else
                        return(900);
        }

        public float calc_Tax()
        {
                float ann_sal=basic+calc_HRA()+calc_Super_Annuation();
                if(ann_sal>60000)
                        return((float)0.10*ann_sal);
                else
```

```
                return(0);
        }

        public float calc_Bonus()
        {
                return((float)0.08*basic);
        }

        public float calc_Super_Annuation()
        {
                return(0);
        }

        public float calc_Gross()
        {
                return(basic+calc_HRA()+calc_Bonus()-calc_Tax());
        }

        void print_Salary()
        {
                System.out.println("\n "+CalcPay.company_name);
                System.out.println("Employee number : "+e_id);
                System.out.println("Employee name : "+ename);
                System.out.println("Basic salary : "+basic);
                System.out.println("House rent allowence : "+calc_HRA());
                System.out.println("Bonus : "+calc_Bonus());
                System.out.println("Taxation : "+calc_Tax());
                System.out.println("Gross salary : "+calc_Gross());
                System.out.println("_____\n");
        }
}

class Manager extends Employee implements CalcPay
{
        Manager(int seid, String sname, int sbasic)
        {
                super(seid, sname, sbasic);
        }

        public int calc_HRA()
        {
                if(basic<6000)
                        return(3500);
                else
                        return(5500);
        }
```