Program 1:

```java
/**
 * Command Line Arguments
 */
public class Exp2_1 {
    public static void main (String args[]){
        for(int i=0;i<args.length;i++) //Loop over the arguments to print them
            System.out.println(args[i]);
    }
}
```

Output:

```
D:\College\JAVA\Experiments\Exp2>javac Exp2_1.java

D:\College\JAVA\Experiments\Exp2>java Exp2_1 1 2 3 4 5
1
2
3
4
5

D:\College\JAVA\Experiments\Exp2>java Exp2_1 Hello World From Java
Hello
World
From
Java

D:\College\JAVA\Experiments\Exp2>java Exp2_1 1.2 2.3 3.4 4.5
1.2
2.3
3.4
4.5

D:\College\JAVA\Experiments\Exp2>
```

Program 2 a:

```java
/**
 * Scanner class Example
 */
import java.util.Scanner;
```

```java
public class Exp2_2_1 {
    public static void main(String args[]) {

        //Declare Scanner class object
        Scanner scanner=new Scanner(System.in);

        System.out.println("Enter Name");
        String name=scanner.nextLine();

        System.out.println("Enter Age");
        int age=scanner.nextInt();

        System.out.println("Enter Height");
        Double height=scanner.nextDouble();

        //Display result
        System.out.println("Name="+name+"\nAge="+age+"\nHeight="+height);
        scanner.close();
        }
}
```

Output:

```
D:\College\JAVA\Experiments\Exp2>javac Exp2_2_1.java

D:\College\JAVA\Experiments\Exp2>java Exp2_2_1
Enter Name
Yash
Enter Age
19
Enter Height
178.5
Name=Yash
Age=19
Height=178.5

D:\College\JAVA\Experiments\Exp2>
```

Program 2 b:

```java
/**
 * Bufferedreader class Example
 */
import java.io.IOException;
import java.io.InputStreamReader;
import java.io.BufferedReader;

public class Exp2_2_2 {
    public static void main(String[] args) throws IOException {

        //Declare InputStreamReader object
        InputStreamReader ir=new InputStreamReader(System.in);
        //Declare BufferedReader object using InputStreamReader object
        BufferedReader br=new BufferedReader(ir);

        System.out.println("Enter Name");
        String name=br.readLine();

        System.out.println("Enter age");
        int age=Integer.parseInt(br.readLine());

        System.out.println("Enter height");
        Double height=Double.parseDouble(br.readLine());

        //Dislaying Result
        System.out.println("Name="+name+"\nAge="+age+"\nHeight="+height);
    }
}
```

Output:

```
D:\College\JAVA\Experiments\Exp2>javac Exp2_2_2.java

D:\College\JAVA\Experiments\Exp2>java Exp2_2_2
Enter Name
Yash
Enter age
19
Enter height
178.5
Name=Yash
Age=19
Height=178.5

D:\College\JAVA\Experiments\Exp2>
```

Program 3:

```
/**
 * Write a program that would print the information (name, year of joining,
 * salary, address) of three employees by creating a class named 'Employee'.
 * The output should be as follows:
 */


class Employee{
  private String name, address;
  private int year, salary;
  //Parameterized constructor definition
  public Employee(String name, int year, int salary, String address){
    this.name = name;
    this.year = year;
    this.salary = salary;
    this.address = address;
  }
  //method to return name
  public String getName(){
```

```
    return name;
  }
  //method to return year
  public int getYear(){
    return year;
  }
  //method to return salary
  public int getSalary(){
    return salary;
  }
  //method to retuen address
  public String getAddress(){
    return address;
  }
}

public class Exp2_3 {
  public static void main(String[] args){

    //Creating objects of Employee class
    Employee e1 = new Employee("Robert", 1994, 500000, "64C- WallsStreet");
    Employee e2 = new Employee("Sam", 2000, 740000, "68d- WallsStreet");
    Employee e3 = new Employee("John", 1999, 600000, "26B- WallsStreet");
    System.out.println("Name\tYear of joining\tSalary\tAddress");

System.out.println(e1.getName()+"\t\t"+e1.getYear()+"\t"+e1.getSalary()+"\t"+e1.g
etAddress());  // printing details of employee 1

System.out.println(e2.getName()+"\t\t"+e2.getYear()+"\t"+e2.getSalary()+"\t"+e2.g
etAddress());  // printing details of employee 2

System.out.println(e3.getName()+"\t\t"+e3.getYear()+"\t"+e3.getSalary()+"\t"+e3.g
etAddress());  // printing details of employee 3

  }
}
```

Output:

```
D:\College\JAVA\Experiments\Exp2>javac Exp2_3.java

D:\College\JAVA\Experiments\Exp2>java Exp2_3
Name    Year of joining Salary  Address
Robert          1994    500000  64C- WallsStreet
Sam             2000    740000  68d- WallsStreet
John            1999    600000  26B- WallsStreet

D:\College\JAVA\Experiments\Exp2>
```

Program 4:

```java
/**
 * Write a java programs to add n strings in a vector array. Input new string and
 * check whether it is present in the vector. If it is present delete it
otherwise add
 * it to the vector.
 */
import java.util.Vector;
import java.util.Scanner;

public class Exp2_4 {
    public static void main(String[] args) {
        int n;
        String str;
        Scanner scanner = new Scanner(System.in);
        //Initialize a string vector
        Vector<String> vect = new Vector<String>();

        System.out.println("Enter Number of strings ypu want to enter: ");
        n = scanner.nextInt();
        //Add n strings to the vector
        for (int i = 0; i < n; i++) {
            System.out.println("Enter a string:");
            str = scanner.next();
            vect.add(str);
        }
```

```
        System.out.println("Vector: " + vect);

        System.out.println("Enter a new string: ");
        String newStr = scanner.next();

        //If new string exists in vector, remove it, else add it
        if (vect.contains(newStr)) {
            vect.remove(newStr);
        }
        else{
            vect.add(newStr);
        }
        //Print the vector
        System.out.println("Vector: " + vect);

        scanner.close();
    }
}
```

Output:

```
D:\College\JAVA\Experiments\Exp2>javac Exp2_4.java

D:\College\JAVA\Experiments\Exp2>java Exp2_4
Enter Number of strings ypu want to enter:
3
Enter a string:
Hello
Enter a string:
World
Enter a string:
Java
Vector: [Hello, World, Java]
Enter a new string:
Java
Vector: [Hello, World]

D:\College\JAVA\Experiments\Exp2>java Exp2_4
Enter Number of strings ypu want to enter:
3
Enter a string:
Hello
Enter a string:
World
Enter a string:
Java
Vector: [Hello, World, Java]
Enter a new string:
Lang
Vector: [Hello, World, Java, Lang]

D:\College\JAVA\Experiments\Exp2>
```

Program 5:

```java
// Java program to illustrate Constructor Chaining
// within same class Using this() keyword
class Temp
{
    // default constructor 1
    // default constructor will call another constructor
    // using this keyword from same class
    Temp()
    {
        // calls constructor 2
        this(5);
        System.out.println("The Default constructor");
    }

    // parameterized constructor 2
    Temp(int x)
    {
        // calls constructor 3
        this(5, 15);
        System.out.println(x);
    }

    // parameterized constructor 3
    Temp(int x, int y)
    {
        System.out.println(x * y);
    }

}
public class Exp2_5 {
    public static void main(String args[])
    {
        // invokes default constructor first
        new Temp();
    }
}
```

Output:

```
D:\College\JAVA\Experiments\Exp2>javac Exp2_5.java

D:\College\JAVA\Experiments\Exp2>java Exp2_5
75
5
The Default constructor

D:\College\JAVA\Experiments\Exp2>
```

Questions

Question 1:

```
//Write a Java program to implement 15 methods of Vector class.
import java.util.Enumeration;
import java.util.Vector;


public class Q1 {
public static void main(String[] args)
{
     Vector v = new Vector();
     System.out.println("Initial Capacity of Vector: "+v.capacity());
        v.add(1);
        v.add(2);
        v.add("mango");
        v.add("apple");
        v.add(3);
        v.add(5);
        v.add(3);

        System.out.println("Modified capacity of Vector: "+v.size());
        System.out.println("First element: " +v.firstElement());
        System.out.println("Last element: " +v.lastElement());
        if(v.contains(new String("mango")))
         System.out.println("Vector contains mango.");
        else
```

```
            System.out.println("Vector doesnt contain mango.");
        Enumeration e=v.elements();
        while(e.hasMoreElements())
        {
           Object o=e.nextElement();
           System.out.println(o+"");

        }


        v.insertElementAt("light",3);
        System.out.println("Index of mango is: "+v.indexOf("mango"));
        System.out.println("Index of first occurence of 3: "+v.indexOf(3,3));
        if(v.isEmpty())
            System.out.println("Vector doesnt contain elements");
        else
            System.out.println("Vector contains elements");
        v.removeElementAt(2);
        System.out.println("Modified vector is: "+v);
        v.setElementAt("litchi",3);
        System.out.println("Modified vector is: "+v);
        System.out.println("Returning sublist from the vector: "+v.subList(3,5));
        Vector<String> copy = (Vector<String>) v.clone();
        System.out.println("Cloned vector: "+copy);
        System.out.println("Hash Code value of Vector is: "+v.hashCode());

}
}
```

Output:

```
D:\College\JAVA\Experiments\Exp2>javac Q1.java
Note: Q1.java uses unchecked or unsafe operations.
Note: Recompile with -Xlint:unchecked for details.

D:\College\JAVA\Experiments\Exp2>java Q1
Initial Capacity of Vector: 10
Modified capacity of Vector: 7
First element: 1
Last element: 3
Vector contains mango.
1
2
mango
apple
3
5
3
Index of mango is: 2
Index of first occurence of 3: 5
Vector contains elements
Modified vector is: [1, 2, light, apple, 3, 5, 3]
Modified vector is: [1, 2, light, litchi, 3, 5, 3]
Returning sublist from the vector: [litchi, 3]
Cloned vector: [1, 2, light, litchi, 3, 5, 3]
Hash Code value of Vector is: -1739718264

D:\College\JAVA\Experiments\Exp2>
```

Question 2:

```java
//Write a Java program to compare a String to a specified String Buffer.
import java.util.Scanner;
public class Q2 {
    public static void main(String[] args)
    {
```

```
        Scanner scanner = new Scanner(System.in);
        System.out.println("Enter the First string: ");
        String str1 = scanner.nextLine();
        System.out.println("Enter the Second string: ");
        String str2 = scanner.nextLine();

        StringBuffer strbuf = new StringBuffer(str1);

        System.out.println("Comparing "+str1+" and "+strbuf+": " +
str1.contentEquals(strbuf));

        System.out.println("Comparing "+str2+" and "+strbuf+": " +
str2.contentEquals(strbuf));

        scanner.close();
    }
}
```

Output:

```
D:\College\JAVA\Experiments\Exp2>javac Q2.java

D:\College\JAVA\Experiments\Exp2>java Q2
Enter the First string:
hello word from java
Enter the Second string:
Hello World From Java
Comparing hello word from java and hello word from java: true
Comparing Hello World From Java and hello word from java: false

D:\College\JAVA\Experiments\Exp2>
```