1. Develop a class with generatePrimes(int N) showPrimes(Vector vector). generatePrimes( ) to generate first N prime numbers and store these prime numbers in Vector Object. Display the Vector object elements by using showPrimes( ) method.

```
public void generatePrimes(int no){

                    //Write your logic

                showPrimes(  object );
}
public void showPrimes(Vector<Integer> vector){

                //Write your logic
}
```

2. Develop a class with Instance variable states (of type Set), addSate(String name), viewStates( ).

   addState(String name) stores the state name into the states Object.

   viewStates( ) should display the elements from the states object in the descending order.

```
public class StatesInfo{
        private Set<String> states=// Create Object, which is required for you

        public void addState(String name){

                // Write your Logic

        }
        public void viewStates(){

                // Write your Logic
        }
}
```

   Hint:

   1. To sort the elements in Set, use java.util API interface

3. Develop a class with Instance variable state_capital (of type Map), add_sate_capital (String state,String capital), viewCapital(String state).

add_state_capital(String state,String capital) stores the state, capital values into the state_capital Object.

viewCapital (String state) should display the capital of the given state. If no state is found it should display message “The State name is not existing”

```
public class State_Capital_Info{

private Map<String,String> state_capital=// Create Object, which is required for you

        public void add_state_capital(String state,String capital){

                // Write your Logic

        }
        public void viewCapital(String name){

                // Write your Logic
        }
}
```

4. Develop a class with instance variable map(of type Map<Integer,Student>), addStudent(Student s), viewStudents( ), viewStudent(Integer id).

addStudent(Student s): get key value from Student class by invoking getId( ),should add student object and id to the Map.

viewStudents( ) : It should display all the student’s detail from the map object.

viewStudent(Integer id): It should display the particular student’s detail.

The Student class :

```
 public static int id=10001;

private String name ,email, course;

Student(String name,String email,String course){

    ------------

 }

public static int getId( ){

    // Write the Code here
}
```

// Do display student details override toString( ) method of the Object class.

5. Write a program to display the

Java Virtual Machine name

Java Library Path

Operating System Name

Hint: Use Java API classes (System, Properties)