LAB RECORD

23CSE111-Object Oriented Programming

Submitted by

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Bachelor of technology

In

Computer Science and Engineering

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CHENNAI

March - 2025

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BONAFIDE CERTIFICATE

This is to certify that the Lab Record work for 23CSE111-Object Oriented Programming Subject submitted by **CH.SC.U4CSE24136 –P.GEETESH** in "Computer Science and Engineering" is a bonafide record of the work carried out under my guidance and supervision at Amrita School of Computing, Chennai.

This Lab examination held on 13/03/2025

Internal Examiner 1 Internal Examiner 2

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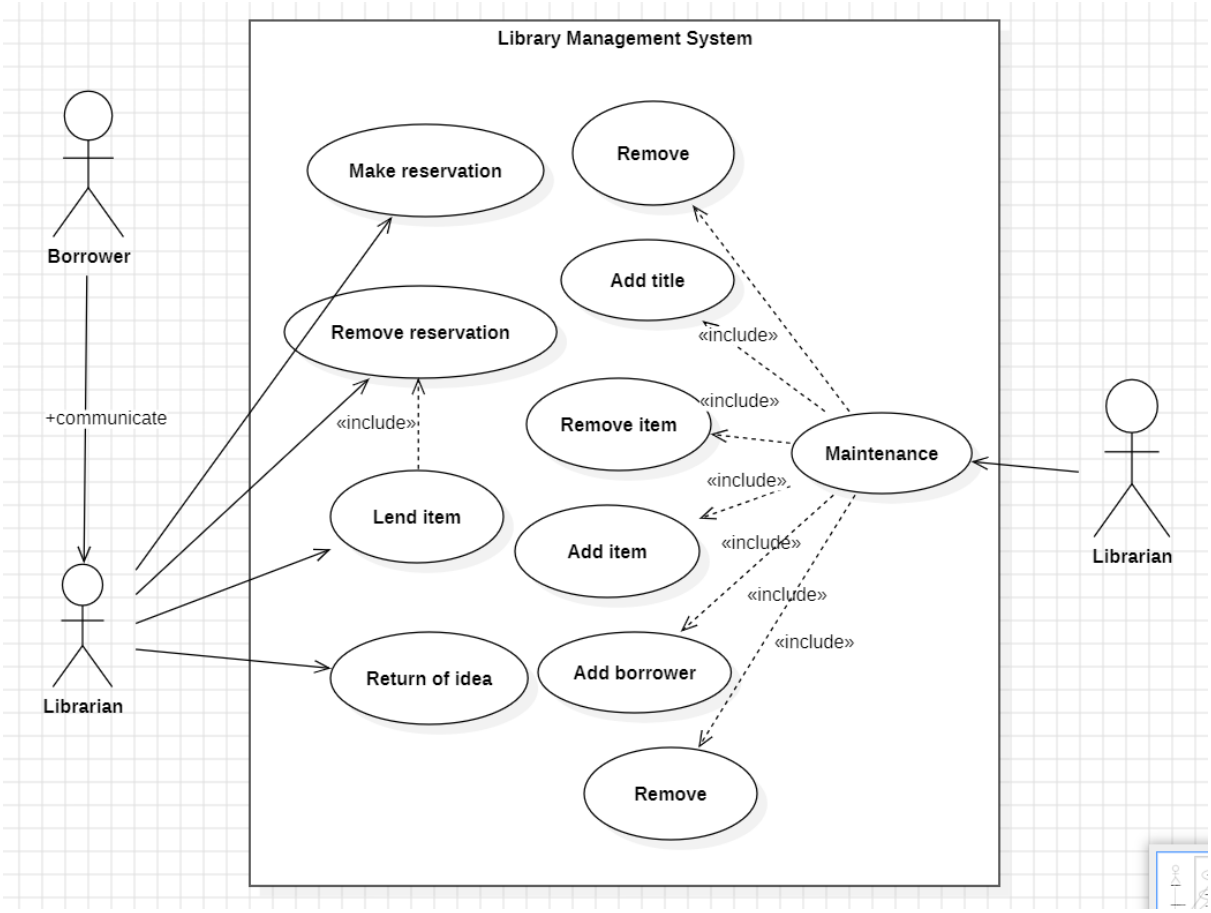
1.UML Diagrams (Library Management System)

a)

Aim: To demonstrate Use case diagram of Library Management System

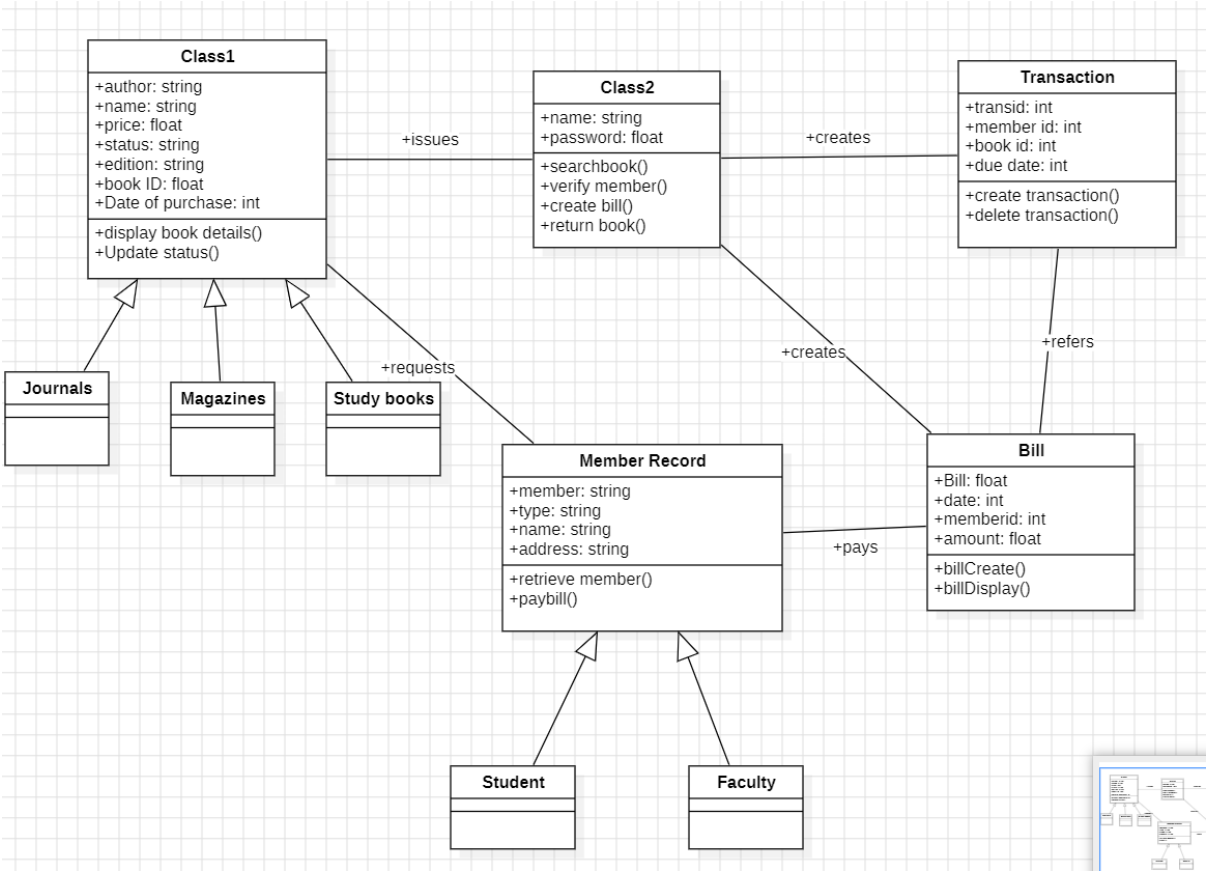
Diagram:



b)

Aim: To demonstrate Class diagram of Library Management System

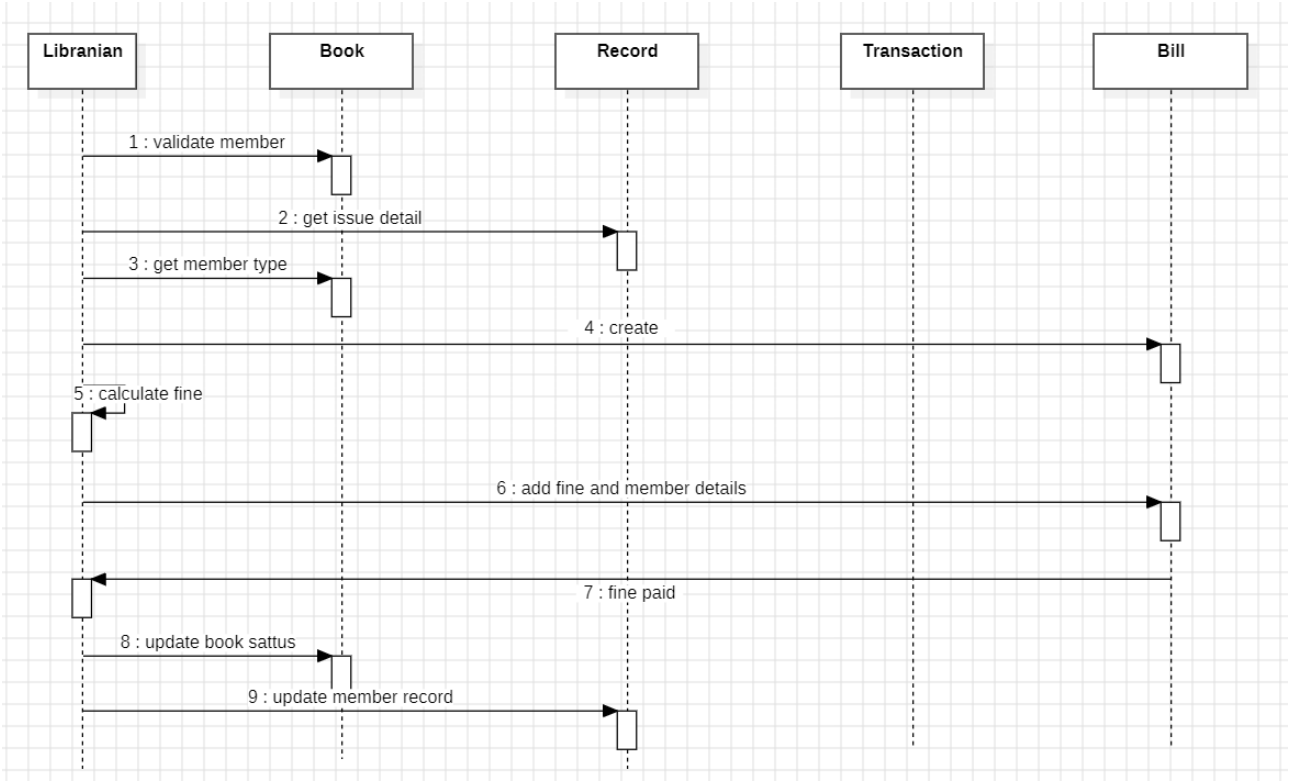
Diagram:



c)

Aim: To demonstrate Sequence diagram of Library Management System

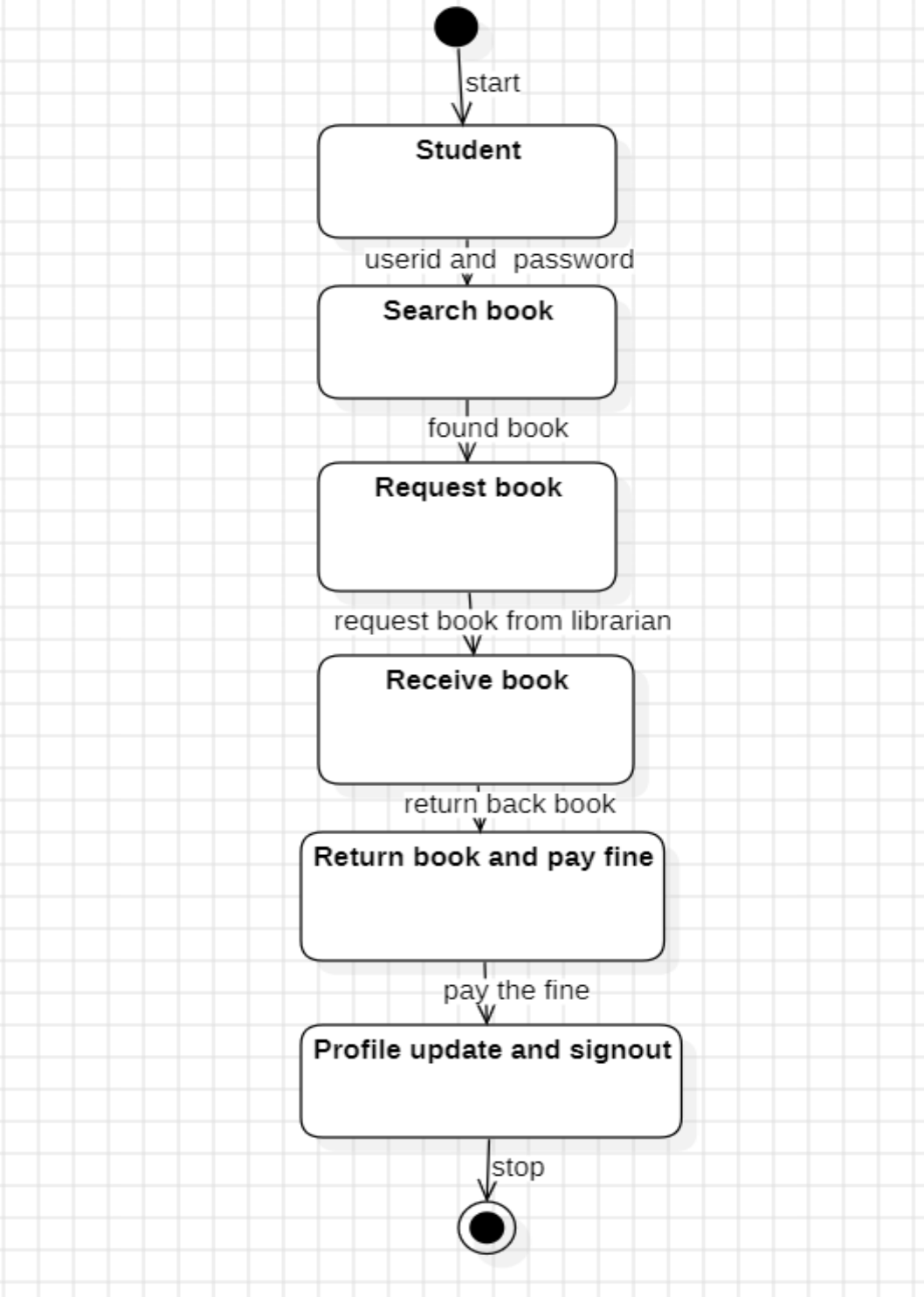
Diagram:



d)

Aim: To demonstrate State diagram of Library Management System

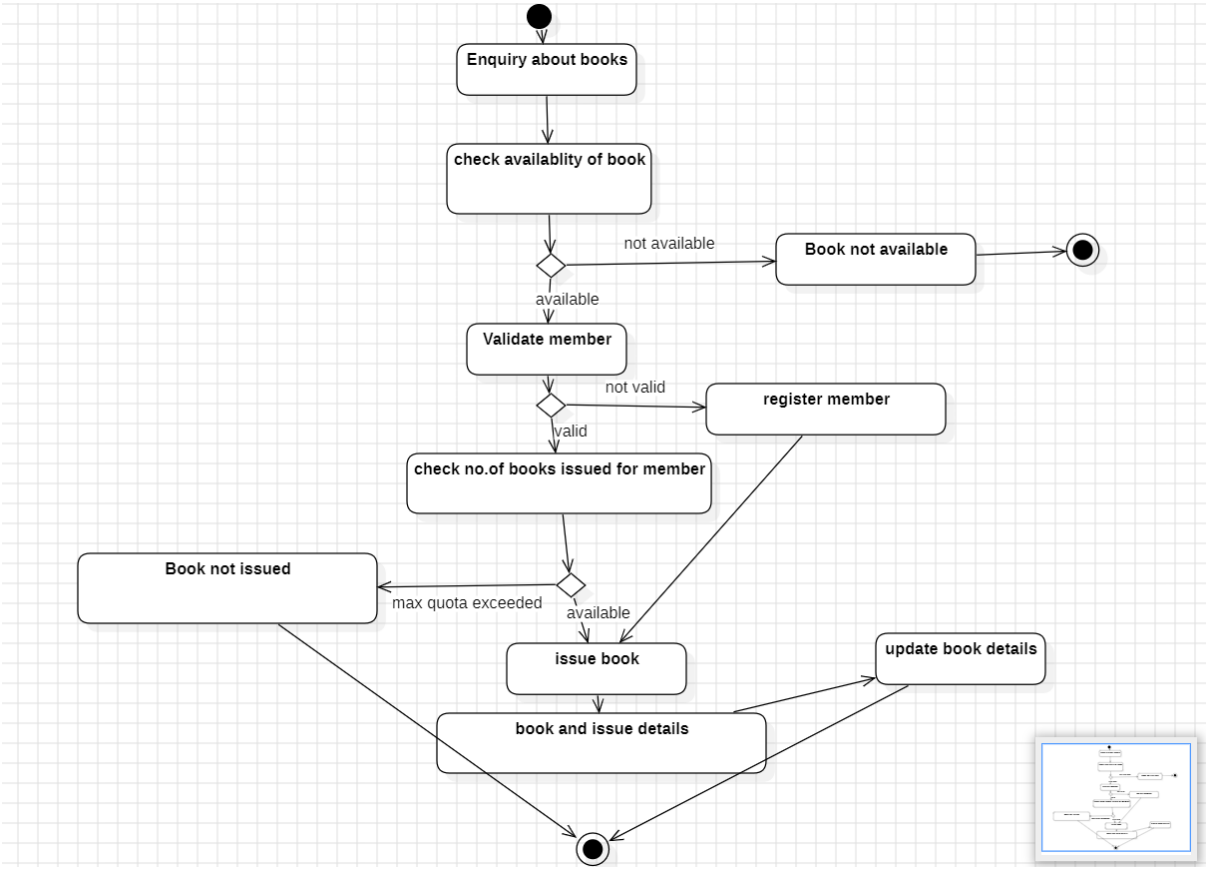
Diagram:



e)

Aim: To demonstrate Activity diagram of Library Management System

Diagram:

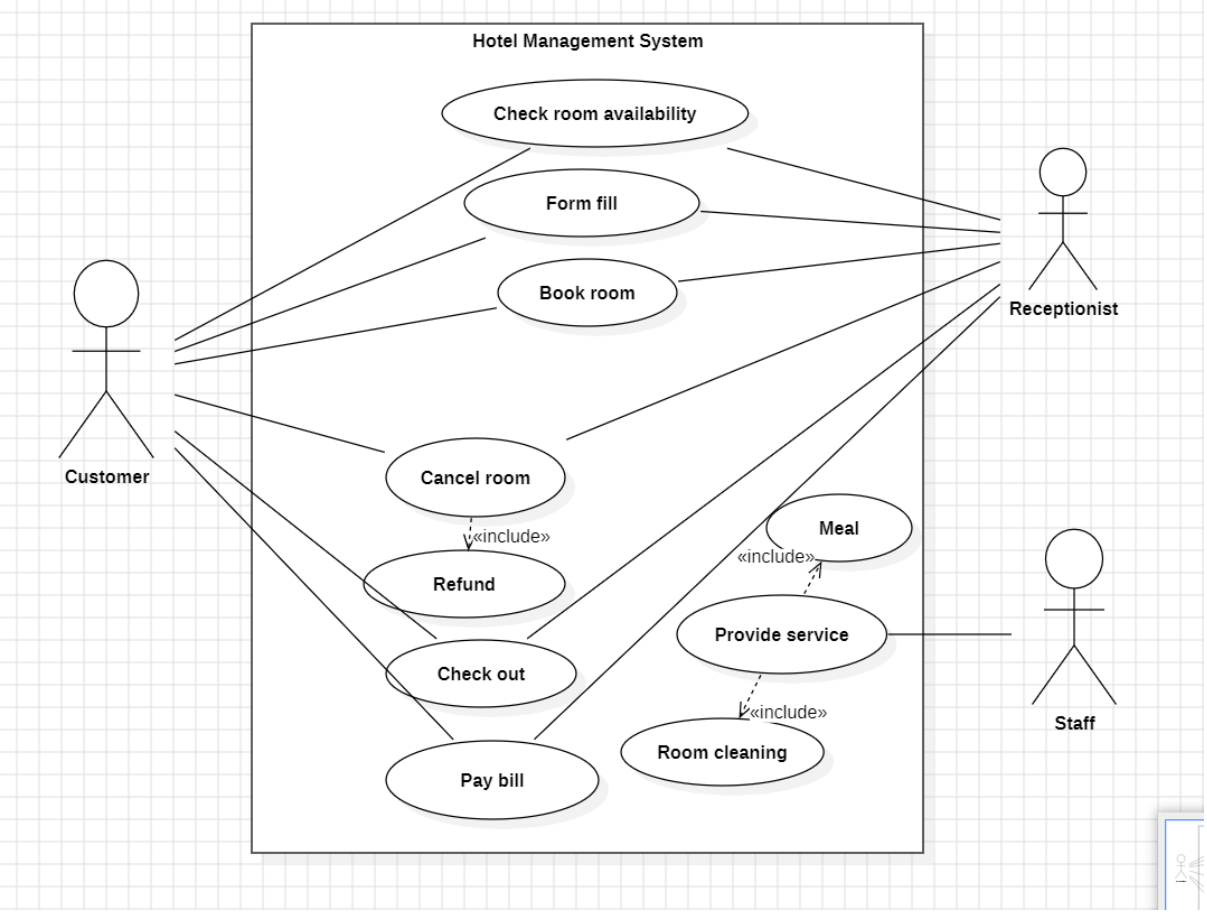


2.UML Diagrams (Hotel Management System)

a)

Aim: To demonstrate Use Case diagram of Hotel Management System

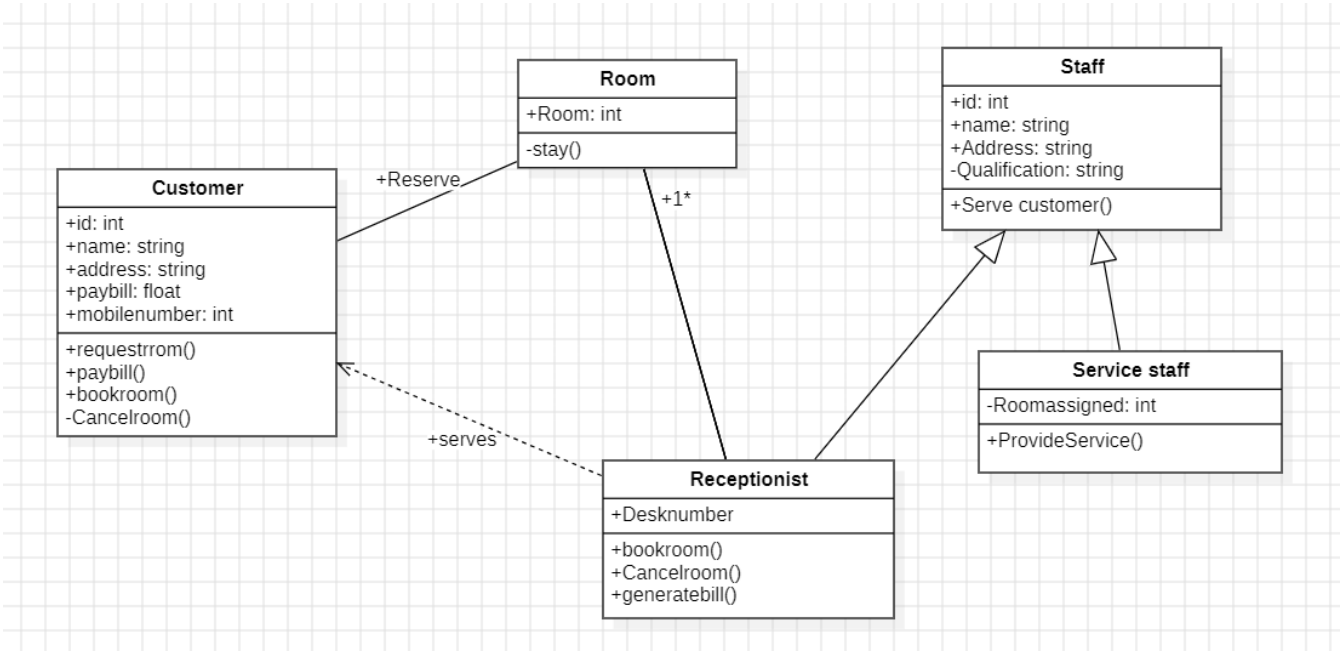
Diagram:



b)

Aim: To demonstrate Class diagram of Hotel Management System

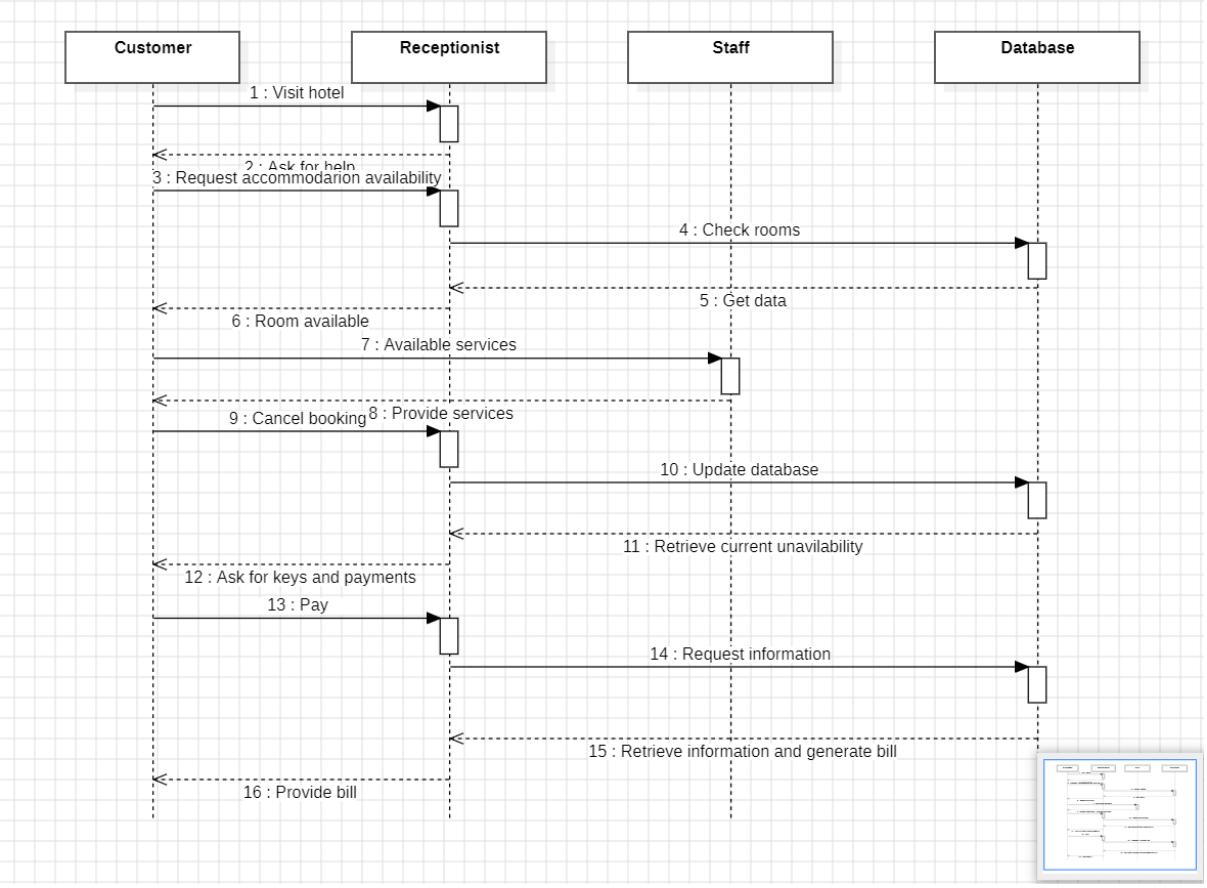
Diagram:



c)

Aim: To demonstrate Sequence diagram of Hotel Management System

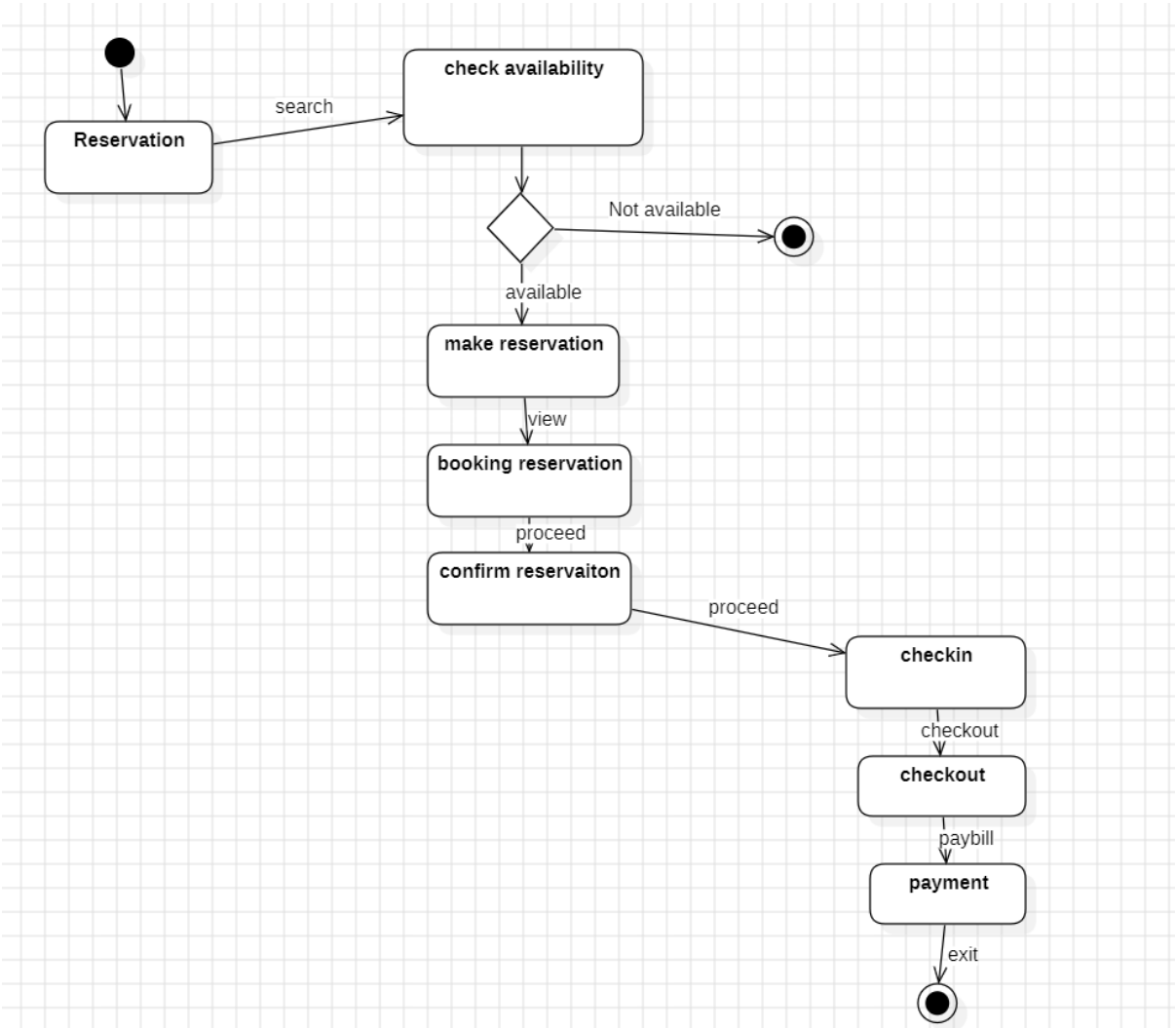
Diagram:



d)

Aim: To demonstrate State diagram of Hotel Management System

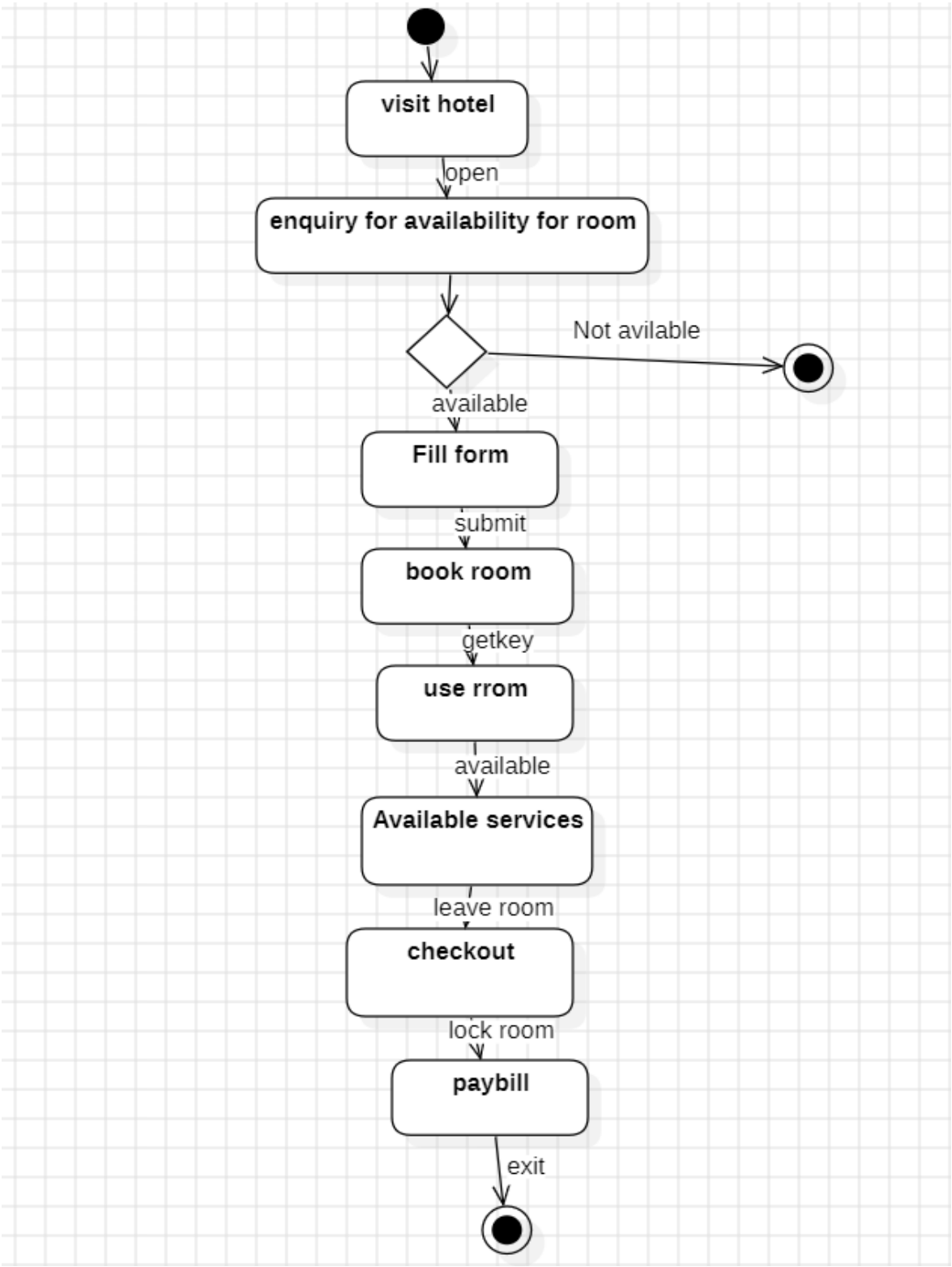
Diagram:



e)

Aim: To demonstrate Activity diagram of Hotel Management System

Diagram:



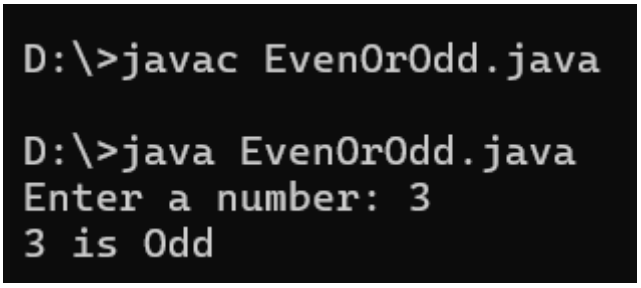
3. Basic Java Programs

a)

Code:

```
import java.util.Scanner;
public class EvenOrOdd {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter a number: ");
      int num = scanner.nextInt();
      if (num % 2 == 0) {
         System.out.println(num + " is Even");
      } else {
         System.out.println(num + " is Odd");
      }
      scanner.close();
   }
}
```

Output:

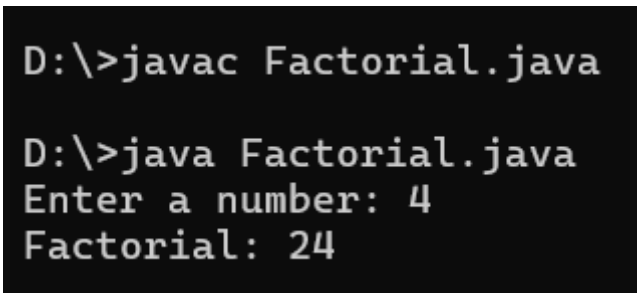


b)

Code:

```
import java.util.Scanner;
public class Factorial {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter a number: ");
      int num = scanner.nextInt();
      int fact = 1;
      for (int i = 1; i <= num; i++) {
         fact *= i;
      }
      System.out.println("Factorial: " + fact);
      scanner.close();
   }
}
```

Output:

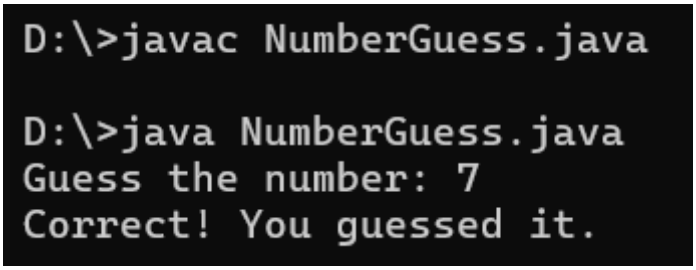


c)

Code:

```
import java.util.Scanner;
public class NumberGuess {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      int secret = 7, guess;
      do {
         System.out.print("Guess the number: ");
         guess = scanner.nextInt();
         if (guess > secret) {
            System.out.println("Too high!");
         } else if (guess < secret) {
            System.out.println("Too low!");
         }
      } while (guess != secret);
      System.out.println("Correct! You guessed it.");
      scanner.close();
   }
}
```

Output:

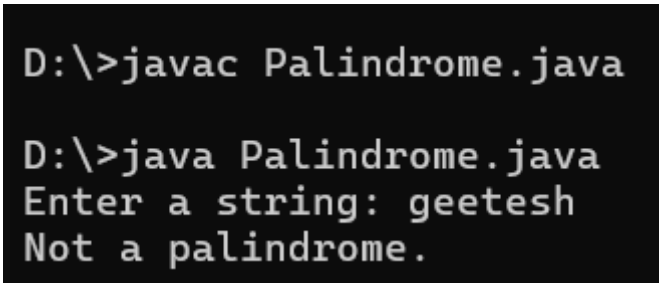


d)

Code:

```
import java.util.Scanner;
public class Palindrome {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter a string: ");
      String str = scanner.nextLine();
      String reversed = "";
      for (int i = str.length() - 1; i >= 0; i--) {
         reversed += str.charAt(i);
      }
      if (str.equals(reversed)) {
         System.out.println("It's a palindrome!");
      } else {
         System.out.println("Not a palindrome.");
      }
      scanner.close();
   }
}
```

Output:

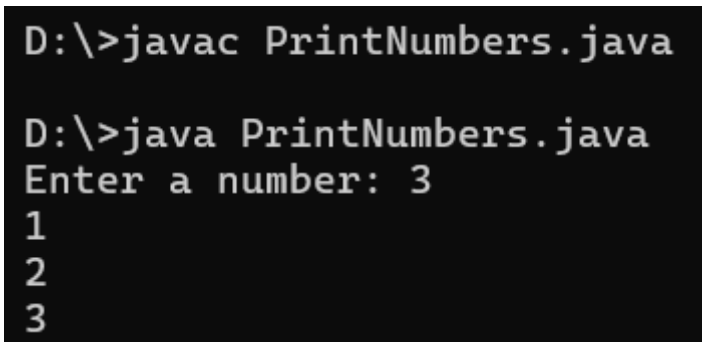


e)

Code:

```
import java.util.Scanner;
public class PrintNumbers {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter a number: ");
      int n = scanner.nextInt();
      for (int i = 1; i <= n; i++) {
         System.out.println(i);
      }
      scanner.close();
   }
}
```

Output:

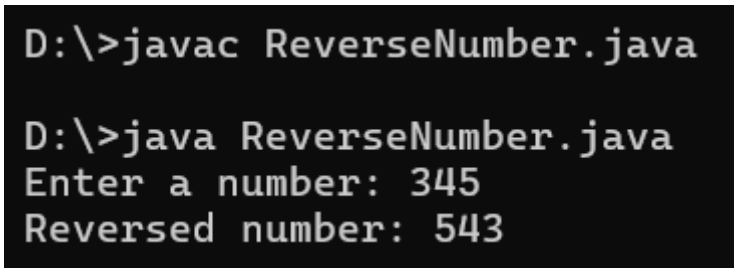


f)

Code:

```
import java.util.Scanner;
public class ReverseNumber {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter a number: ");
      int num = scanner.nextInt();
      int reversed = 0;
      while (num != 0) {
         reversed = reversed * 10 + num % 10;
         num /= 10;
      }
      System.out.println("Reversed number: " + reversed);
      scanner.close();
   }
}
```

Output:



g)

Code:

```
import java.util.Scanner;
public class ReverseString {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter a string: ");
      String str = scanner.nextLine();
      String reversed = "";
      for (int i = str.length() - 1; i >= 0; i--) {
         reversed += str.charAt(i);
      }
      System.out.println("Reversed string: " + reversed);
      scanner.close();
   }
}
```

Output:

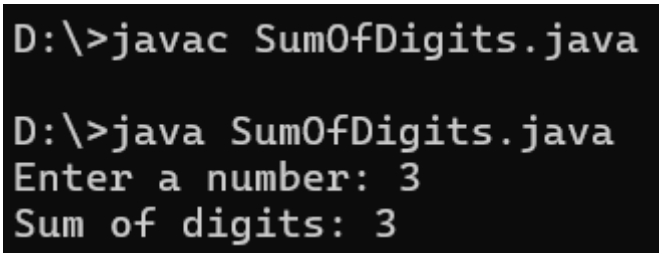
```
D:\>javac ReverseString.java

D:\>java ReverseString.java
Enter a string: geetesh
Reversed string: hseteeg
```

h)

Code:

```
import java.util.Scanner;
public class SumOfDigits {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter a number: ");
      int num = scanner.nextInt();
      int sum = 0;
      while (num != 0) {
         sum += num % 10;
         num /= 10;
      }
      System.out.println("Sum of digits: " + sum);
      scanner.close();
   }
}
```

Output:

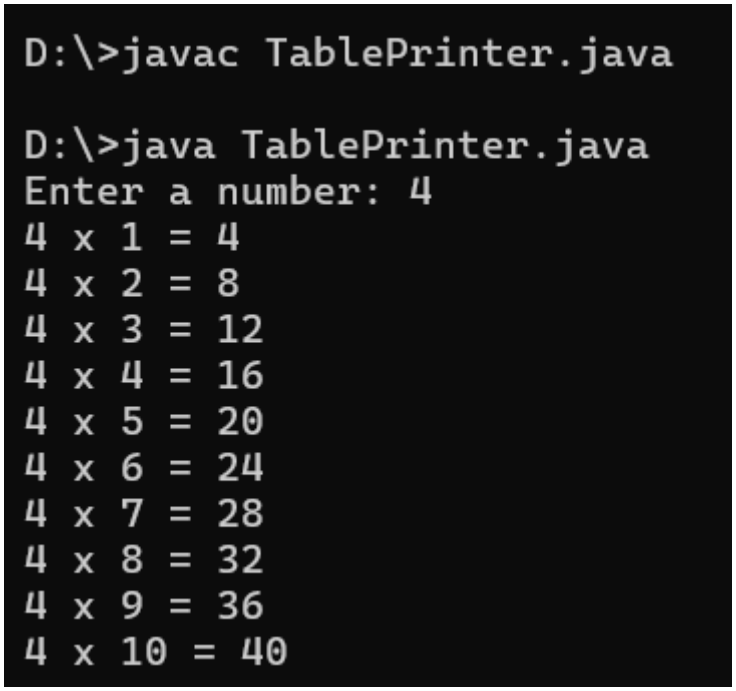


i)

Code:

```
import java.util.Scanner;
public class TablePrinter {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter a number: ");
      int num = scanner.nextInt();
      for (int i = 1; i <= 10; i++) {
         System.out.println(num + " x " + i + " = " + (num * i));
      }
      scanner.close();
   }
}
```

Output:



j)

Code:

```
import java.util.Scanner;
public class VowelCounter {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String str = scanner.nextLine().toLowerCase();
        int count = 0;
        for (char c : str.toCharArray()) {
            if (c == 'a' || c == 'e' || c == 'i' || c == 'o' || c == 'u') {
                count++;
            }
        }
        System.out.println("Vowel count: " + count);
        scanner.close();
    }
}
```

Output: