LAB RECORD

23CSE111 – Object Oriented Programming

Submitted by

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BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING

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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.U4CSE24133 – N.ASHWATH*** 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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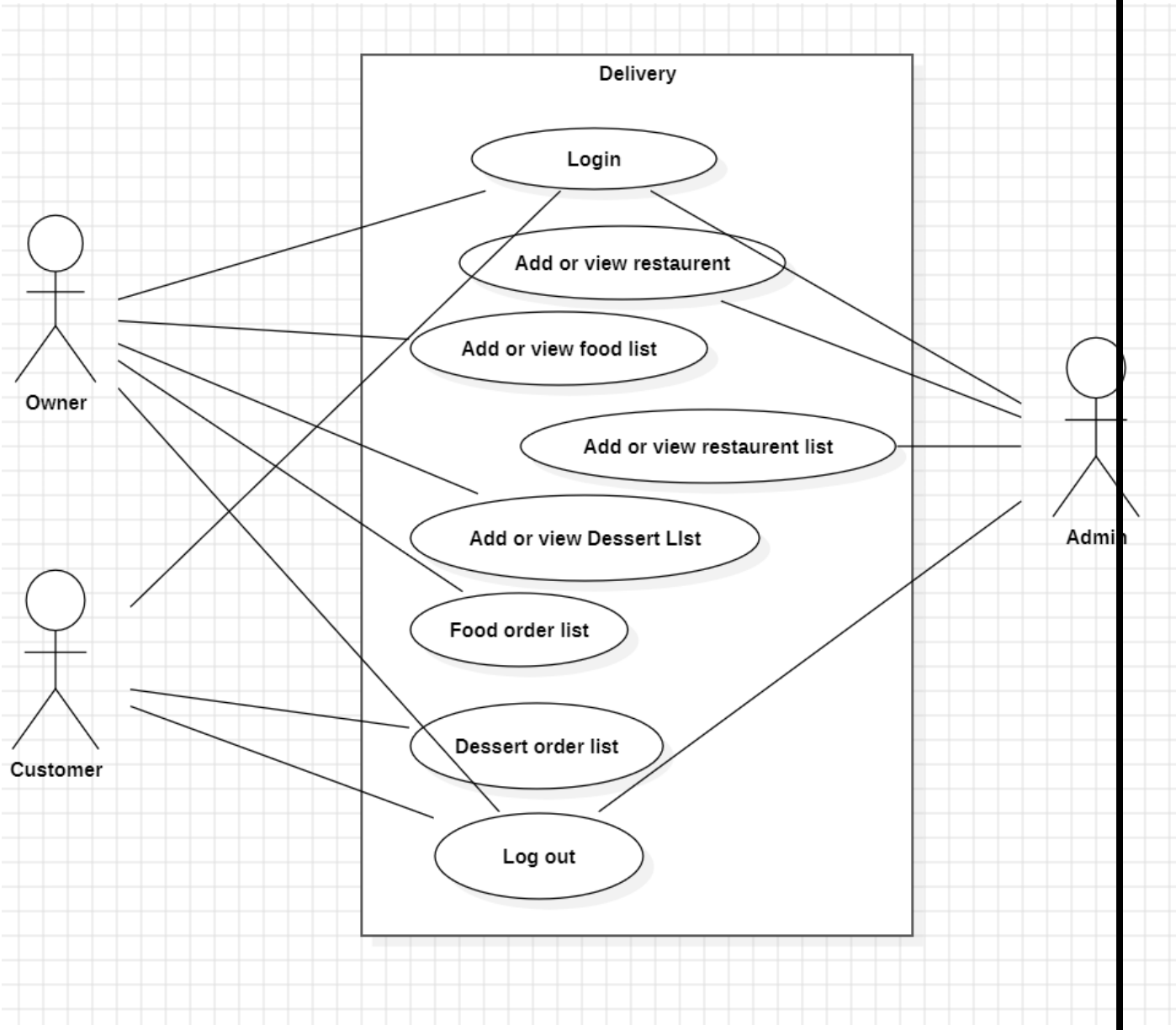
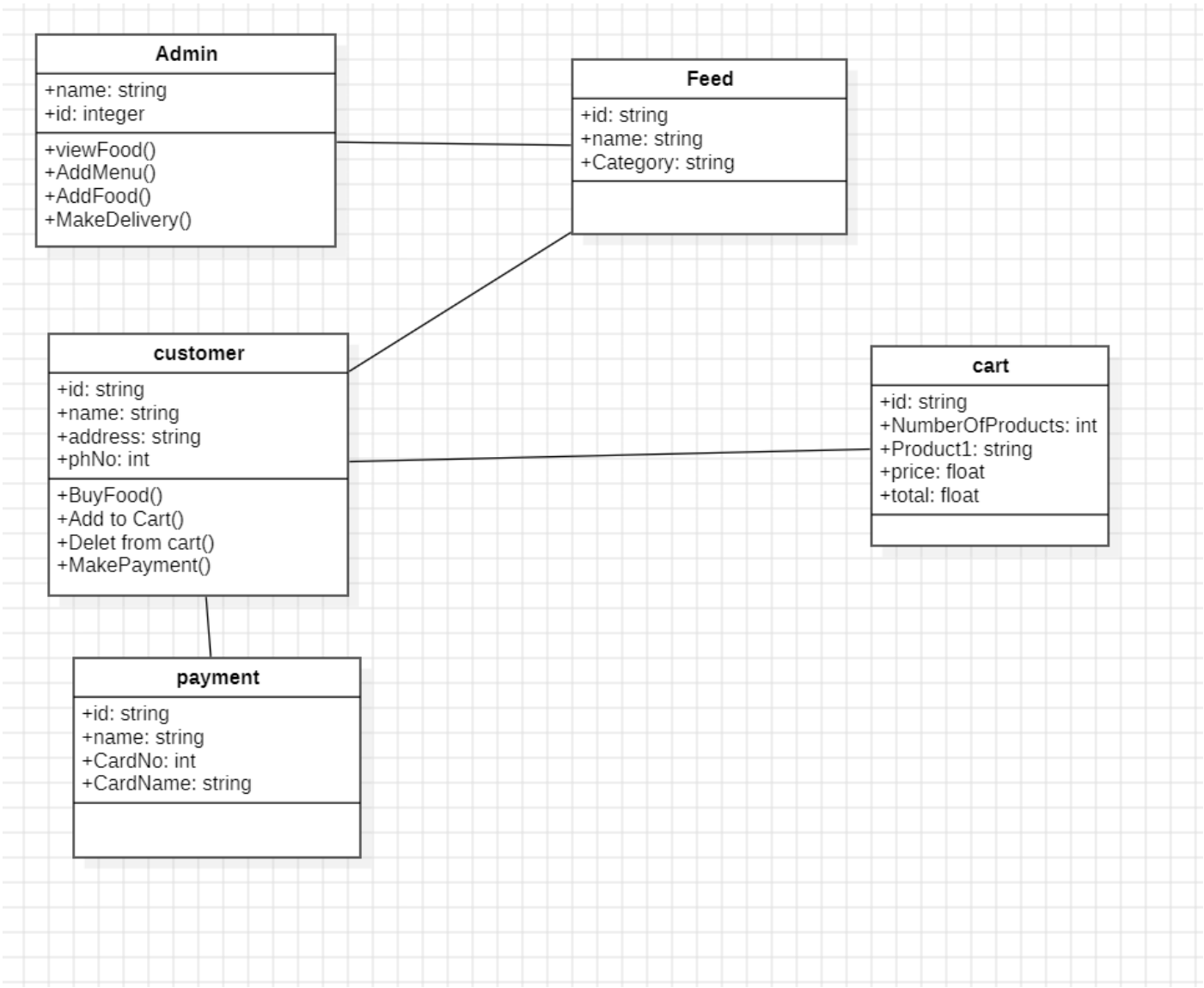
EXPERIMENT-1

DELIVERY

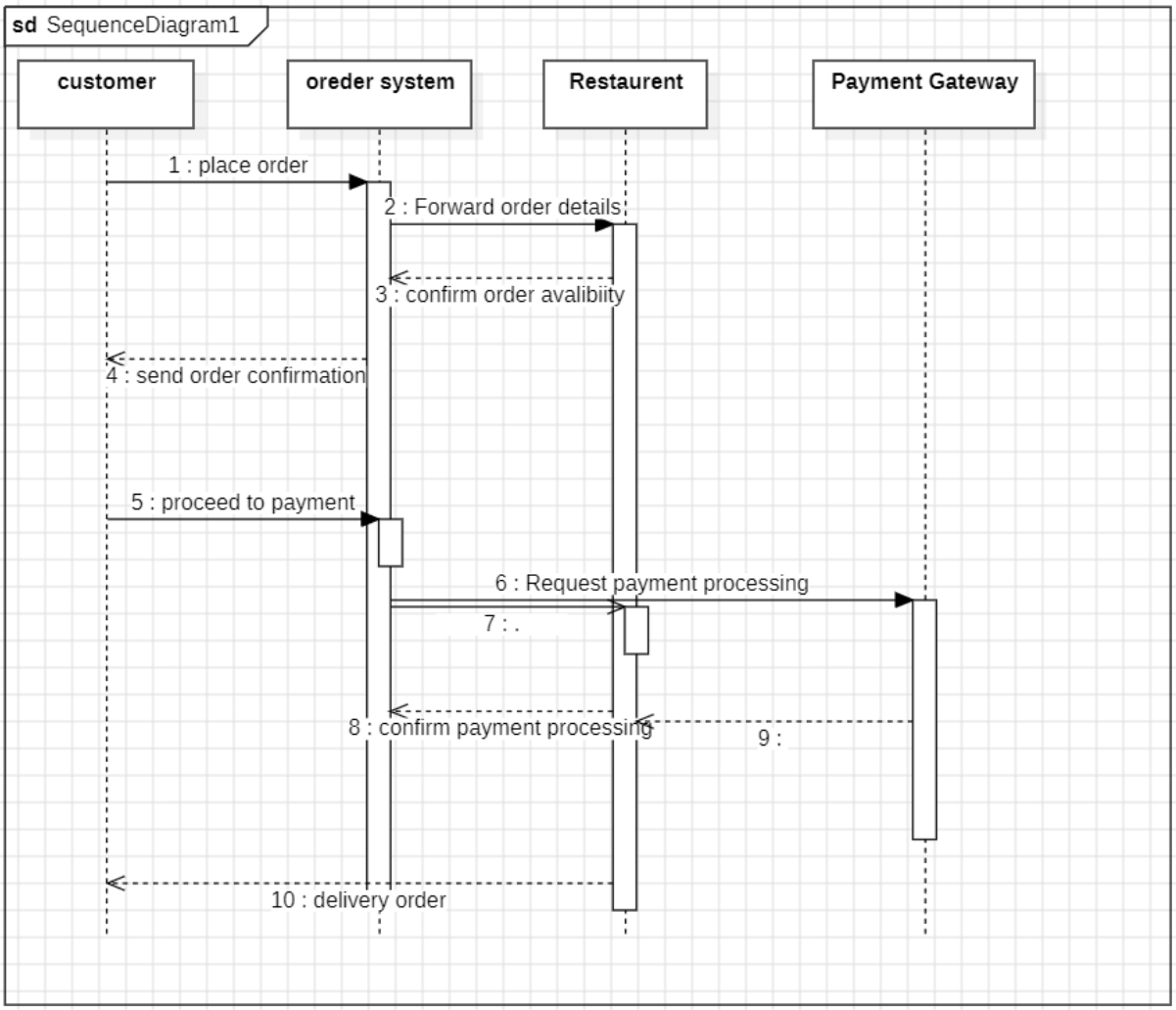
1) Use case



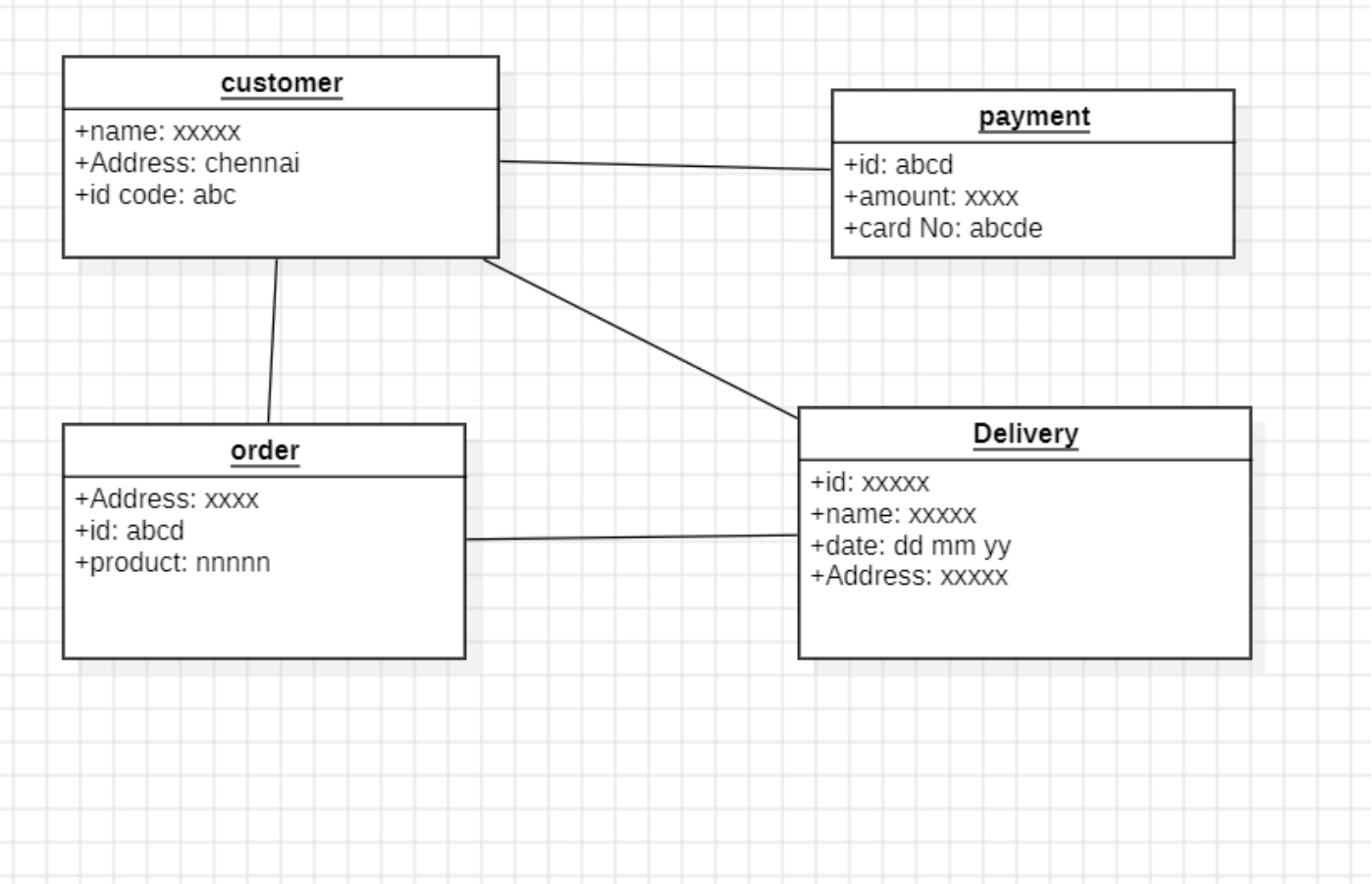
2)class



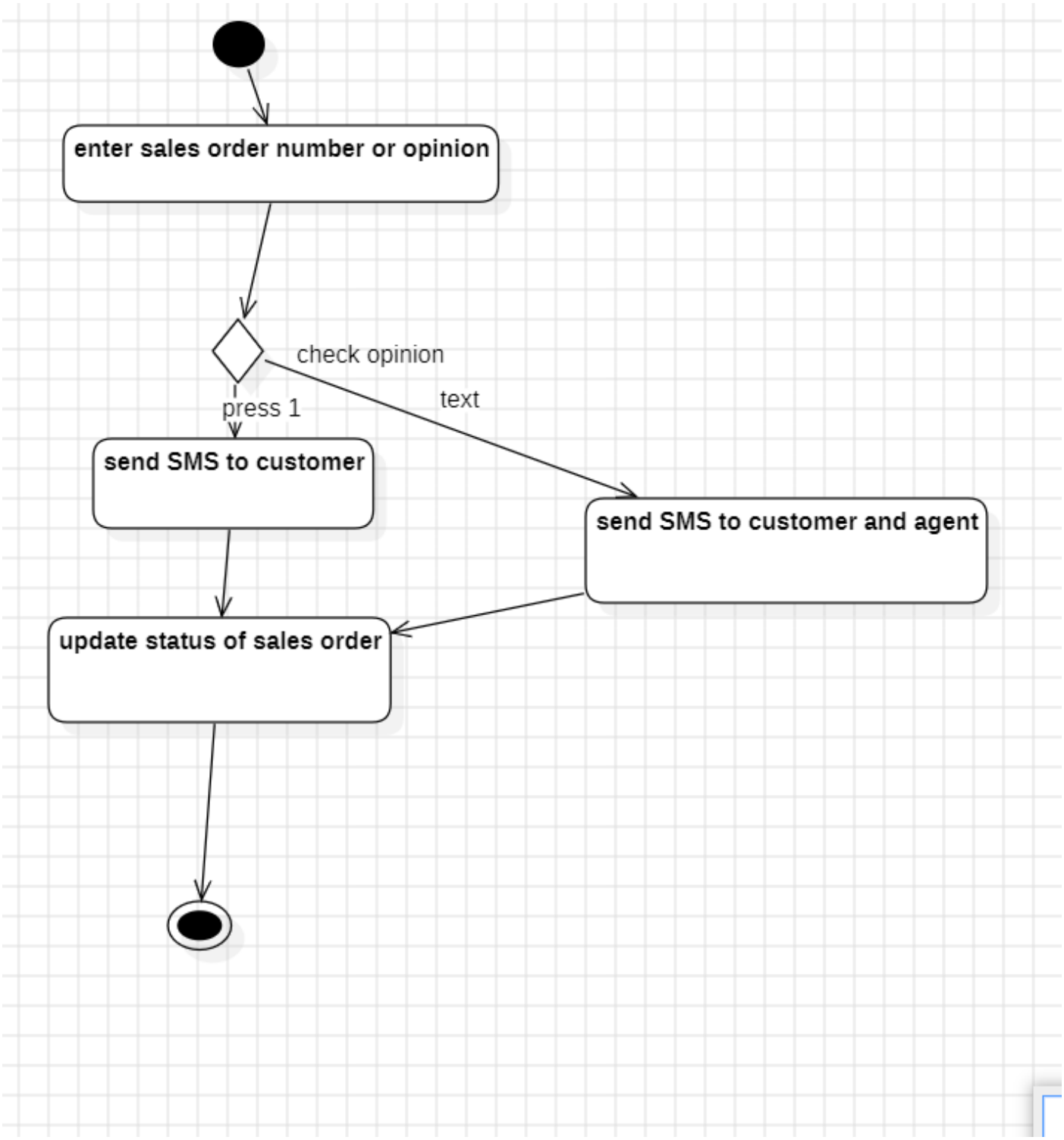
3)sequence



4)object diagram



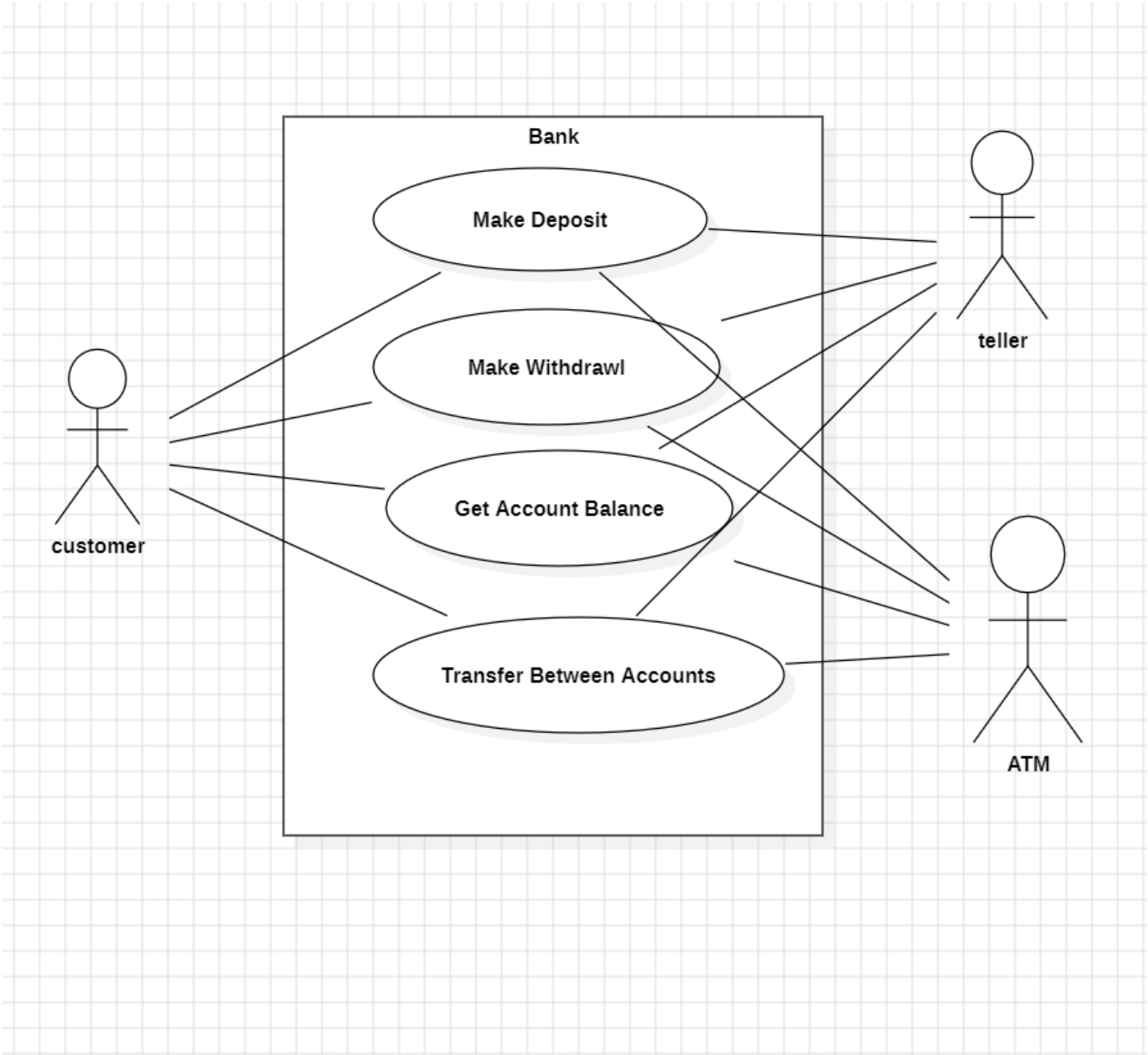
5)Activity diagram


enter sales order number or opinion
check opinion
press 1
text
send SMS to customer
send SMS to customer and agent
update status of sales order

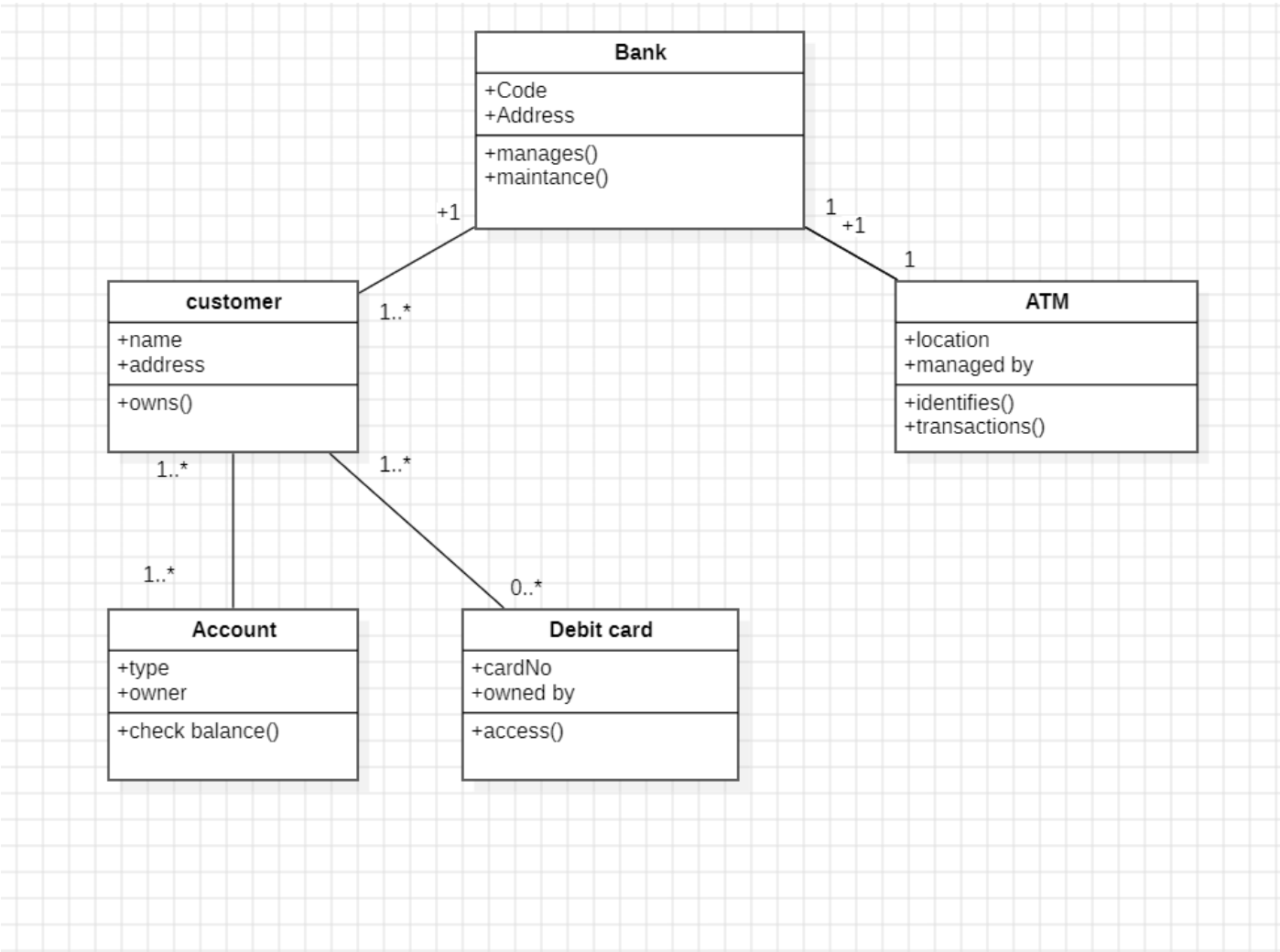
EXPERIMENT-2

BANK

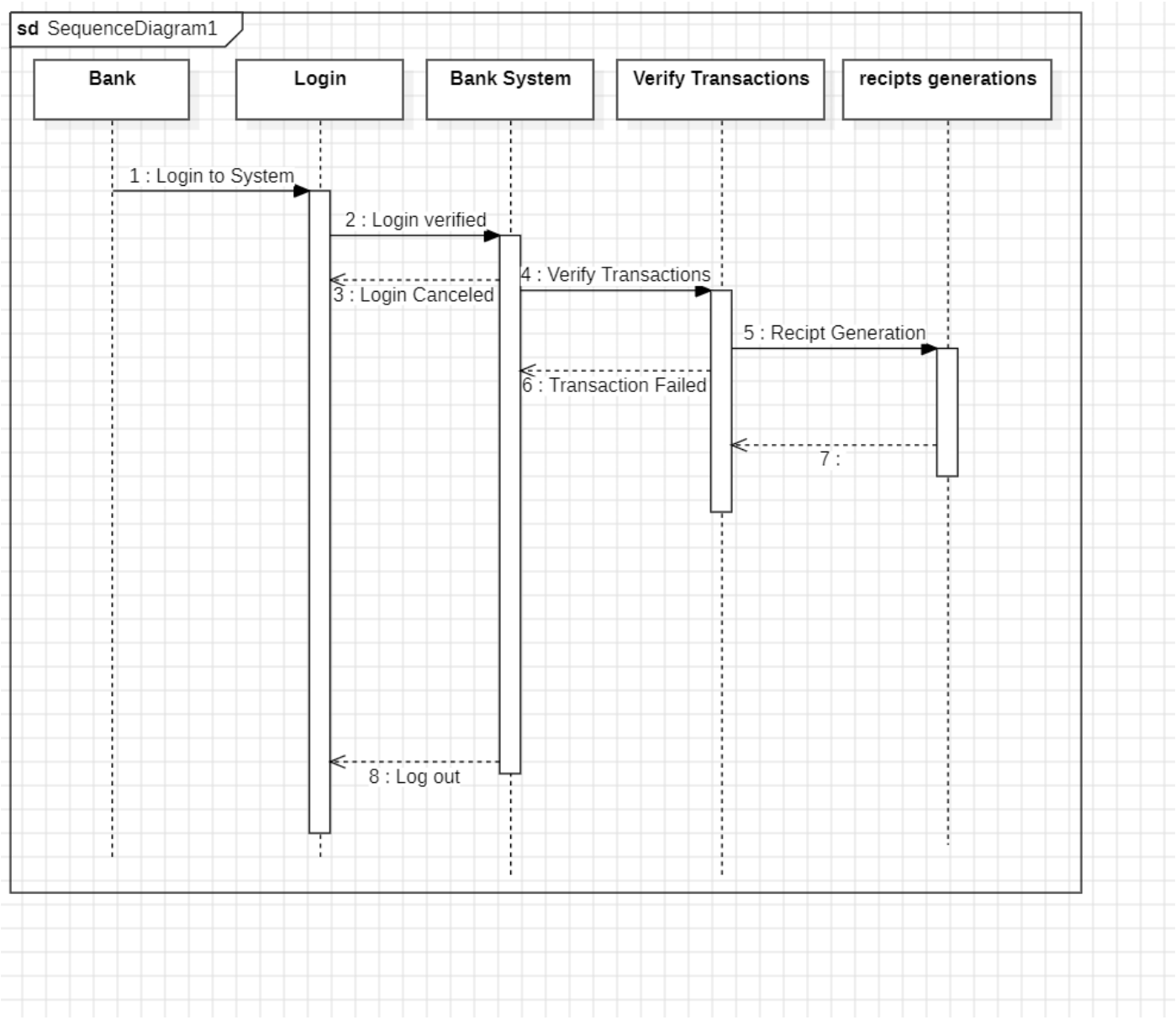
1)use case



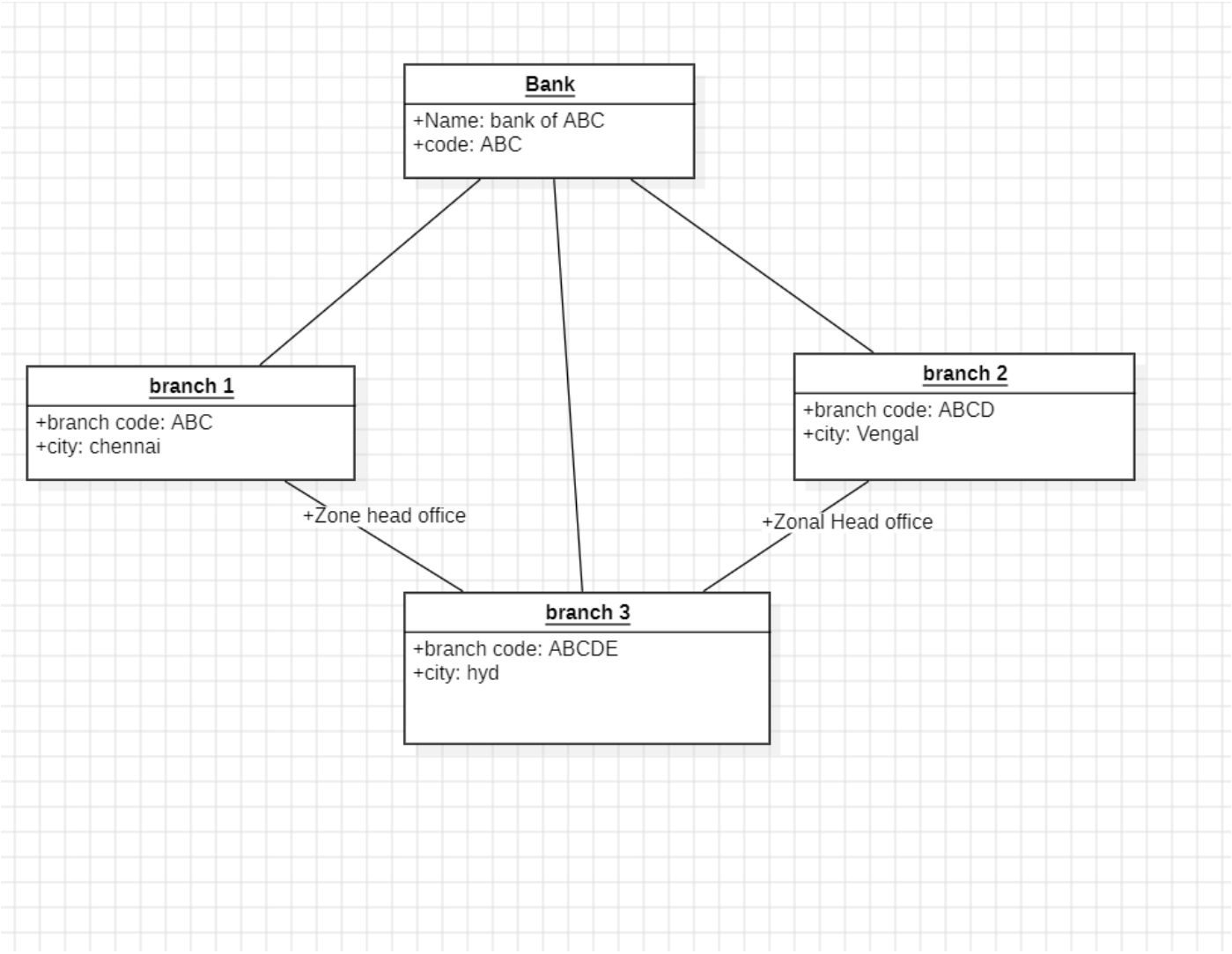
2)class



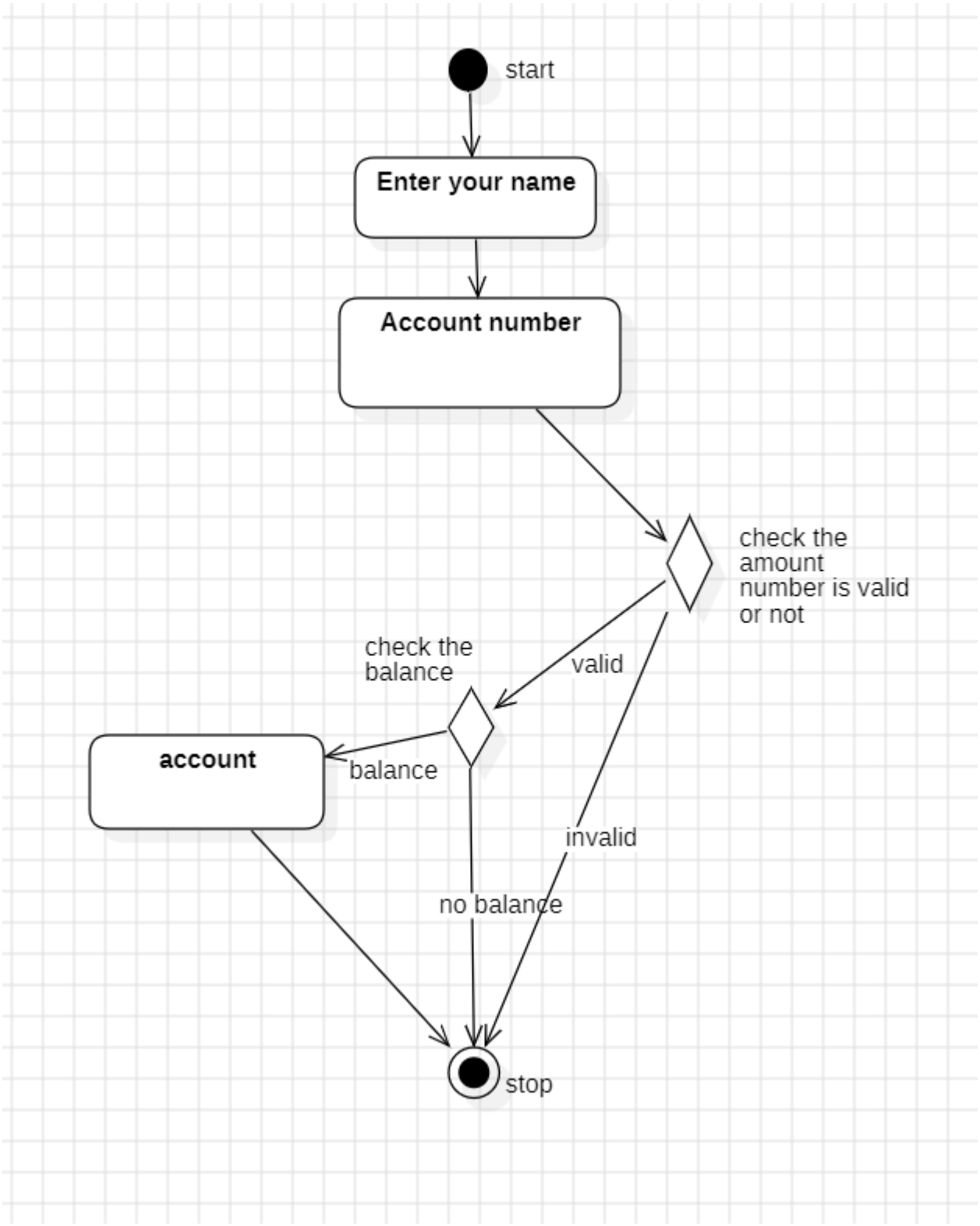
3)sequence



4)object diagram



5)activity diagram


start
Enter your name
Account number
check the
amount
number is valid
or not
valid
check the
balance
account
balance
invalid
no balance
stop

EXPERIMENT-3

1. For Loop Example

Java Code:

```
public class ForLoopExample {
    public static void main(String[] args) {
        System.out.println("For Loop:");
        for (int i = 1; i <= 10; i++) {
            System.out.println(i);
        }
    }
}
```

Output:

```
C:\Users\ashwa\OneDrive\experiment-3>javac DoWhileLoopExample.java

C:\Users\ashwa\OneDrive\experiment-3>java DoWhileLoopExample.java
Do-While Loop:
1
2
3
4
5
6
7
8
9
10

C:\Users\ashwa\OneDrive\experiment-3>
```

2. While Loop Example

Java Code:

```
public class WhileLoopExample {
    public static void main(String[] args) {
        int i = 1;
        System.out.println("While Loop:");
        while (i <= 10) {
            System.out.println(i);
            i++;
        }
    }
}
```

Output:

```
C:\Users\ashwa\OneDrive\experiment-3>javac WhileLoopExample.java

C:\Users\ashwa\OneDrive\experiment-3>java WhileLoopExample.java
While Loop:
1
2
3
4
5
6
7
8
9
10

C:\Users\ashwa\OneDrive\experiment-3>
```

3.Do-While Loop Example

Java Code:

```
public class DoWhileLoopExample {
    public static void main(String[] args) {
        int i = 1;
        System.out.println("Do-While Loop:");
        do {
            System.out.println(i);
            i++;
        } while (i <= 10);
    }
}
```

Output:

```
C:\Users\ashwa\OneDrive\experiment-3>javac DoWhileLoopExample.java

C:\Users\ashwa\OneDrive\experiment-3>java DoWhileLoopExample.java
Do-While Loop:
1
2
3
4
5
6
7
8
9
10

C:\Users\ashwa\OneDrive\experiment-3>
```

4. Sum of First N Numbers (Using For Loop)

Java Code:

```
public class SumUsingForLoop {
    public static void main(String[] args) {
        int n = 5, sum = 0;
        for (int i = 1; i <= n; i++) {
            sum += i;
        }
        System.out.println("Sum of first " + n + " numbers: "
+ sum);
    }
}
```

Output:

```
C:\Users\ashwa\OneDrive\experiment-3>javac SumUsingForLoop.java

C:\Users\ashwa\OneDrive\experiment-3>java SumUsingForLoop.java
Sum of first 5 numbers: 15
```

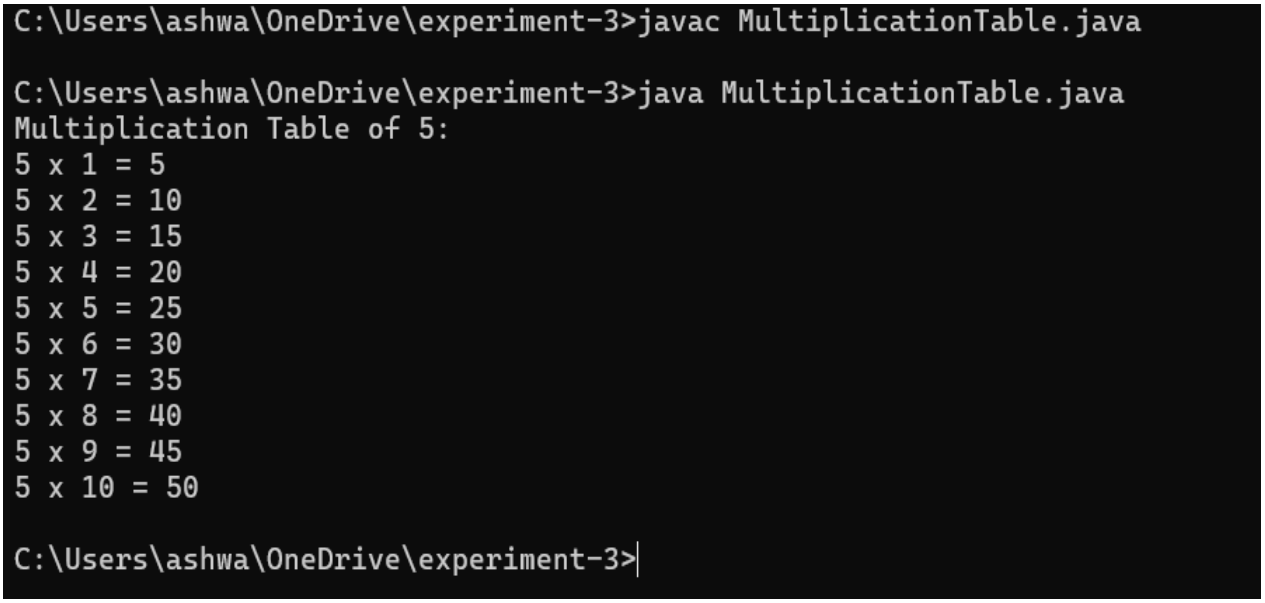
5. Multiplication Table (Using While Loop)

Java Code:

```
public class MultiplicationTable {
    public static void main(String[] args) {
        int num = 5, i = 1;
```

```
        System.out.println("Multiplication Table of " +
num + ":");
        while (i <= 10) {
            System.out.println(num + " x " + i + " = " +
(num * i));
            i++;
        }
    }
}
```

Output:



6. Reverse Number (Using Do-While Loop)

Java Code:

```
public class ReverseNumber {
    public static void main(String[] args) {
        int num = 1234, reversed = 0;
        do {
            int digit = num % 10;
```

```
            reversed = reversed * 10 + digit;
            num /= 10;
        } while (num != 0);
        System.out.println("Reversed Number: " +
reversed);
    }
}
```

Output:

```
C:\Users\ashwa\OneDrive\experiment-3>javac ReverseNumber.java

C:\Users\ashwa\OneDrive\experiment-3>java ReverseNumber.java
Reversed Number: 4321
```

7. Fibonacci Series (Using For Loop)

Java Code:

```
public class FibonacciForLoop {
    public static void main(String[] args) {
        int n = 10, a = 0, b = 1;
        System.out.print("Fibonacci Series: ");
        for (int i = 1; i <= n; i++) {
            System.out.print(a + " ");
            int next = a + b;
            a = b;
            b = next;
        }
    }
}
```

Output:

```
C:\Users\ashwa\OneDrive\experiment-3>javac FibonacciForLoop.java

C:\Users\ashwa\OneDrive\experiment-3>java FibonacciForLoop.java
Fibonacci Series: 0 1 1 2 3 5 8 13 21 34
C:\Users\ashwa\OneDrive\experiment-3>
```

8.Check Prime Number (Using While Loop)

Java Code:

```
public class PrimeNumberCheck {
    public static void main(String[] args) {
        int num = 29, i = 2;
        boolean isPrime = true;

        while (i <= num / 2) {
            if (num % i == 0) {
                isPrime = false;
                break;
            }
            i++;
        }

        if (isPrime)
            System.out.println(num + " is a Prime
Number");
        else
            System.out.println(num + " is Not a Prime
Number");
    }
}
```

Output:

```
C:\Users\ashwa\OneDrive\experiment-3>javac PrimeNumberCheck.java

C:\Users\ashwa\OneDrive\experiment-3>java PrimeNumberCheck.java
29 is a Prime Number
```

9. Factorial Using Do-While Loop

Java Code:

```
public class FactorialDoWhile {
    public static void main(String[] args) {
        int num = 5, fact = 1;
        int i = 1;
        do {
            fact *= i;
            i++;
        } while (i <= num);
        System.out.println("Factorial of " + num + "
is: " + fact);
    }
}
```

Output:

```
C:\Users\ashwa\OneDrive\experiment-3>javac FactorialDoWhile.java

C:\Users\ashwa\OneDrive\experiment-3>java FactorialDoWhile.java
Factorial of 5 is: 120
```

10. Infinite Loop Example (Using While Loop)

Java Code:

```
public class InfiniteLoop {
    public static void main(String[] args) {
        while (true) {
            System.out.println("This is an infinite loop.
Press Ctrl+C to stop.");
        }
    }
}
```

Output: