Method Overloading

a. Overloading by change in number of parameters

Aim:

To write a java program to overload a function add(), the first function takes in 2 integers and the second takes in 3 integers.

Code:

```
package exp7;

import java.util.Scanner;

public class Overloading_numbers {
    int add(int a, int b){
        return a + b;
    }

    int add(int a, int b, int c){
        return a + b + c;
    }

    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        Overloading_numbers add = new Overloading_numbers();
        System.out.print("Enter first number: ");
        int a = input.nextInt();
        System.out.print("Enter second number: ");
        int b = input.nextInt();
        int sum = add.add(a, b);
        System.out.println("Sum of first two numbers: " + sum);
        System.out.print("Enter third number: ");
        int c = input.nextInt();
        sum = add.add(a, b, c);
        System.out.println("Sum of the three numbers: " + sum);
        input.close();
    }
}
```

Output:

```
Enter first number: 2
Enter second number: 3
Sum of first two numbers: 5
Enter third number: 4
Sum of the three numbers: 9
```

b. Overloading by change in datatype of parameters

Aim:

To write a java program to overload a function, sub(). The first function takes in 2 integers and the second takes in 2 doubles.

Code:

```
package exp7;

import java.util.Scanner;

public class Overloading_sequence {
    float multiply(int a, float b){
        return a * b;
    }
    float multiply(float a, int b){
        return a * b;
    }

    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        Overloading_sequence mul = new Overloading_sequence();
        System.out.print("Enter two numbers(first an int and then a
float): ");
        int a = input.nextInt();
        float b = input.nextFloat();
        System.out.println("Product: " + mul.multiply(a, b));
        System.out.print("Enter two numbers(first a float and then
an int): ");
        float c = input.nextFloat();
        int d = input.nextInt();
```

```
        System.out.println("Product: " + mul.multiply(c, d));
        input.close();
    }
}
```

Output:

```
Enter two integers: 2
3
Difference(Integers): -1
Enter two doubles: 4.4
5.5
Difference(Doubles): -1.0999999999999996
```

c. Overloading by change in sequence of parameters

Aim:

To write a java program to overload a function, mul(). The first function takes in an int and then a float, the second function takes in a float and then an int.

Code:

```
package exp7;

import java.util.Scanner;

public class Overloading_sequence {
    float multiply(int a, float b){
        return a * b;
    }
    float multiply(float a, int b){
        return a * b;
    }

    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        Overloading_sequence mul = new Overloading_sequence();
        System.out.print("Enter two numbers(first an int and then a
float): ");
        int a = input.nextInt();
        float b = input.nextFloat();
        System.out.println("Product: " + mul.multiply(a, b));
```

```
        System.out.print("Enter two numbers(first a float and then
an int): ");
        float c = input.nextFloat();
        int d = input.nextInt();
        System.out.println("Product: " + mul.multiply(c, d));
        input.close();
    }
}
```

Output:

```
Enter two numbers(first an int and then a float): 2
3.3
Product: 6.6
Enter two numbers(first a float and then an int): 4.5
6
Product: 27.0
```

Result:-

Thus, the programs were successfully executed and verified.