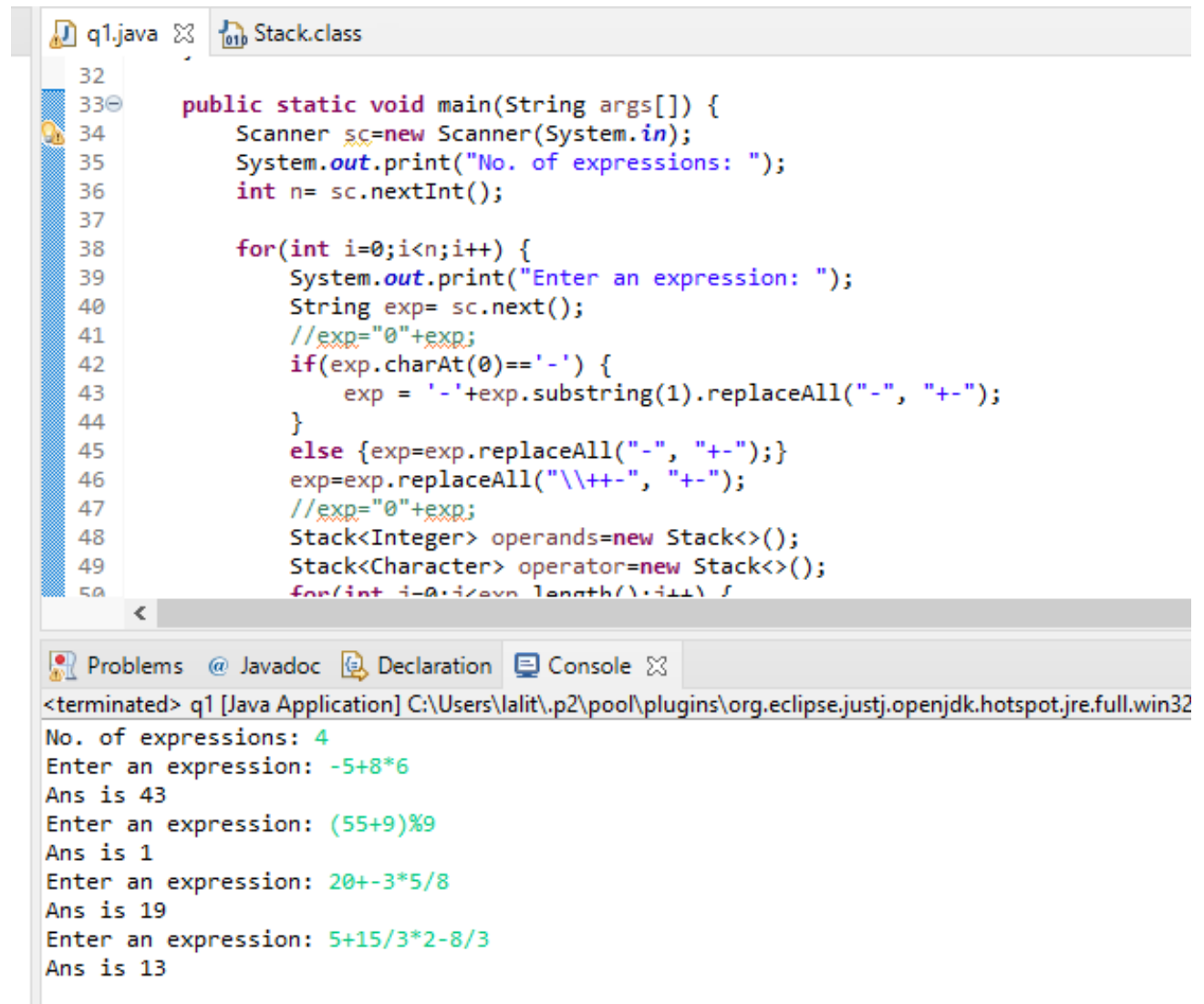


In-Slide Questions:

1.



The screenshot shows the Eclipse IDE with two tabs: `q1.java` and `Stack.class`. The `q1.java` tab is active, displaying the following Java code:

```
32
33 public static void main(String args[]) {
34     Scanner sc=new Scanner(System.in);
35     System.out.print("No. of expressions: ");
36     int n= sc.nextInt();
37
38     for(int i=0;i<n;i++) {
39         System.out.print("Enter an expression: ");
40         String exp= sc.next();
41         //exp="0"+exp;
42         if(exp.charAt(0)=='-') {
43             exp = '-' + exp.substring(1).replaceAll("-", "+-");
44         }
45         else {exp=exp.replaceAll("-", "+-");}
46         exp=exp.replaceAll("\\\\+-", "+-");
47         //exp="0"+exp;
48         Stack<Integer> operands=new Stack<>();
49         Stack<Character> operator=new Stack<>();
50         for(int i=0;i<exp.length();i++) {
```

Below the code editor, the `Console` tab is active, showing the program's execution output:

```
<terminated> q1 [Java Application] C:\Users\lalit\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32
No. of expressions: 4
Enter an expression: -5+8*6
Ans is 43
Enter an expression: (55+9)%9
Ans is 1
Enter an expression: 20+-3*5/8
Ans is 19
Enter an expression: 5+15/3*2-8/3
Ans is 13
```

2.

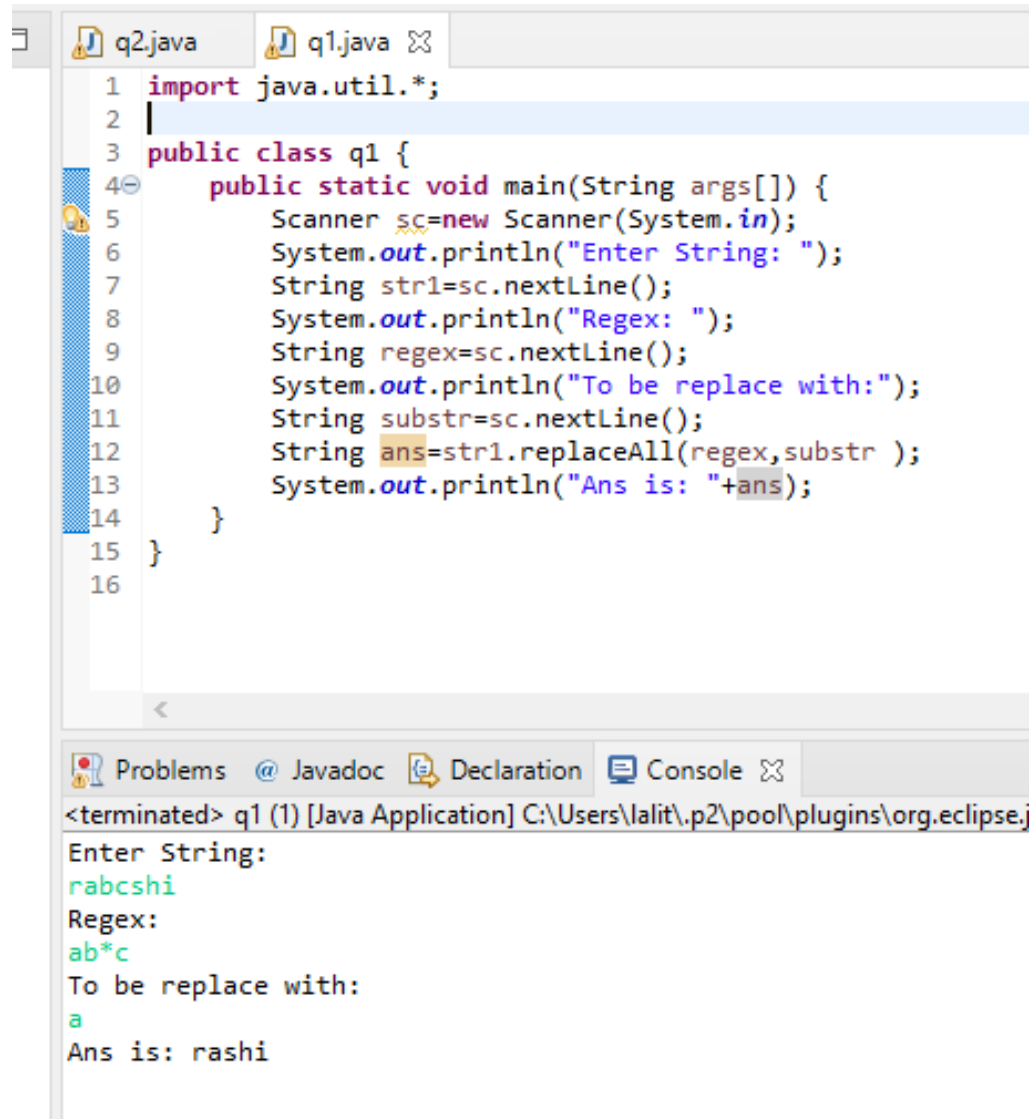
```
q1.java q2.java x
```

```
1 import java.util.*;
2
3 public class q2 {
4     public static void main(String args[]) {
5         for (int i = 0; i < 15; i++) {
6             for (int j = 0; j < 46; j++) {
7                 if(i < 9 && j < 12){
8                     if((i+j)%2 == 0 && j != 11){
9                         System.out.print("*");
10                    } else {
11                        System.out.print(" ");
12                    } else {
13                        System.out.print("=");
14                    }
15                } //End for
16                System.out.println();
17            }
18        }
19    }
```

```
<terminated> q2 [Java Application] C:\Users\lalit\.p2\pool\plugins\org.eclipse.justj.o
***** =====
***** =====
***** =====
***** =====
***** =====
***** =====
***** =====
***** =====
***** =====
***** =====
=====
=====
=====
=====
=====
=====
=====
```

Hands-On Questions

1.



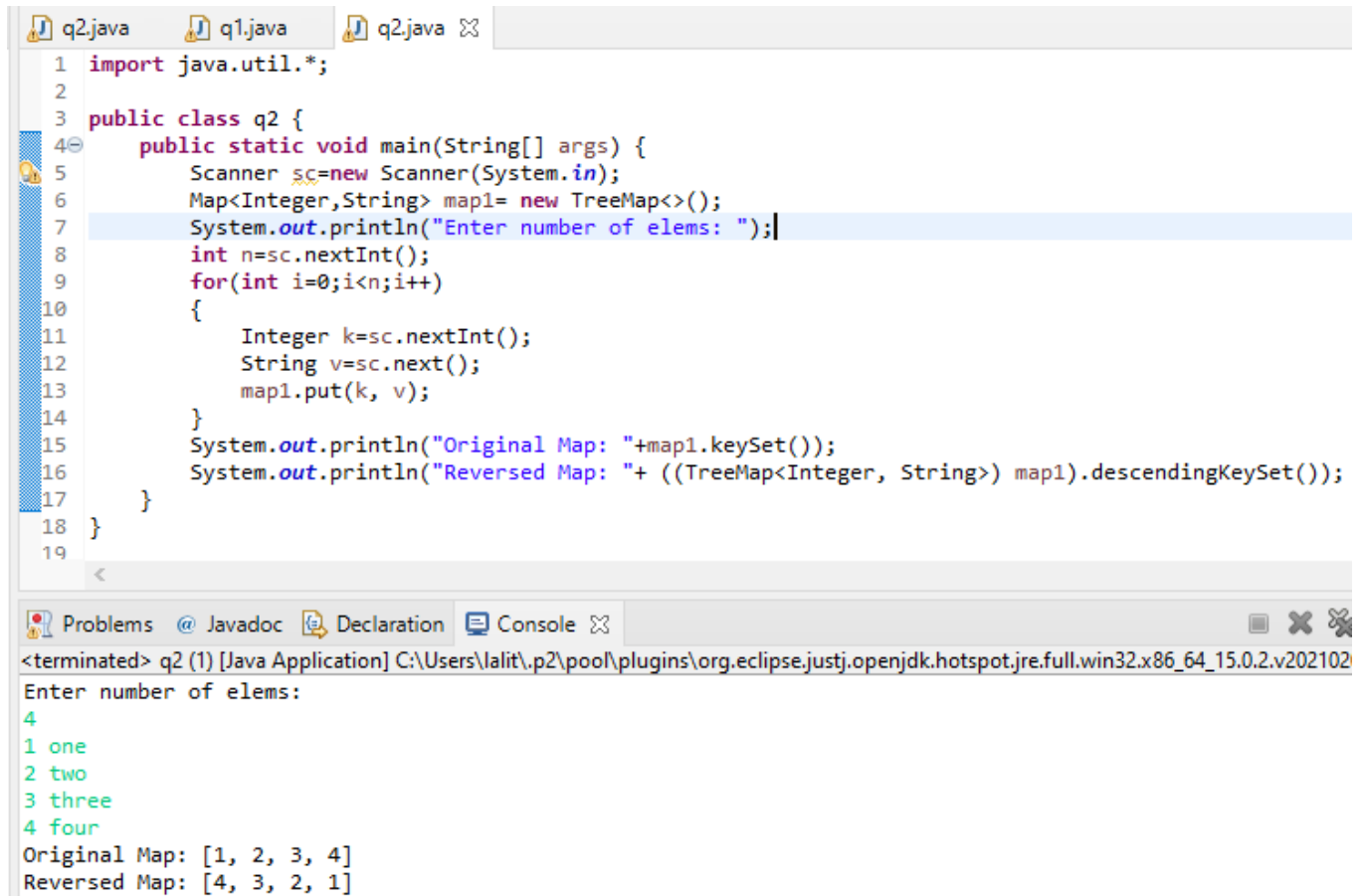
The screenshot shows the Eclipse IDE with two tabs: q2.java and q1.java. The q1.java tab is active, displaying the following Java code:

```
1 import java.util.*;
2
3 public class q1 {
4     public static void main(String args[]) {
5         Scanner sc=new Scanner(System.in);
6         System.out.println("Enter String: ");
7         String str1=sc.nextLine();
8         System.out.println("Regex: ");
9         String regex=sc.nextLine();
10        System.out.println("To be replace with:");
11        String substr=sc.nextLine();
12        String ans=str1.replaceAll(regex,substr );
13        System.out.println("Ans is: "+ans);
14    }
15 }
16
```

Below the code editor, the 'Console' tab is selected, showing the output of the program:

```
<terminated> q1 (1) [Java Application] C:\Users\lalit\.p2\pool\plugins\org.eclipse.j
Enter String:
rabcshi
Regex:
ab*c
To be replace with:
a
Ans is: rashi
```

2.



```
1 import java.util.*;
2
3 public class q2 {
4     public static void main(String[] args) {
5         Scanner sc=new Scanner(System.in);
6         Map<Integer,String> map1= new TreeMap<>();
7         System.out.println("Enter number of elems: ");
8         int n=sc.nextInt();
9         for(int i=0;i<n;i++)
10            {
11                Integer k=sc.nextInt();
12                String v=sc.next();
13                map1.put(k, v);
14            }
15         System.out.println("Original Map: "+map1.keySet());
16         System.out.println("Reversed Map: "+ ((TreeMap<Integer, String>) map1).descendingKeySet());
17     }
18 }
19
```

<terminated> q2 (1) [Java Application] C:\Users\lalit.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.2.v202102

Enter number of elems:

4

1 one

2 two

3 three

4 four

Original Map: [1, 2, 3, 4]

Reversed Map: [4, 3, 2, 1]

3.

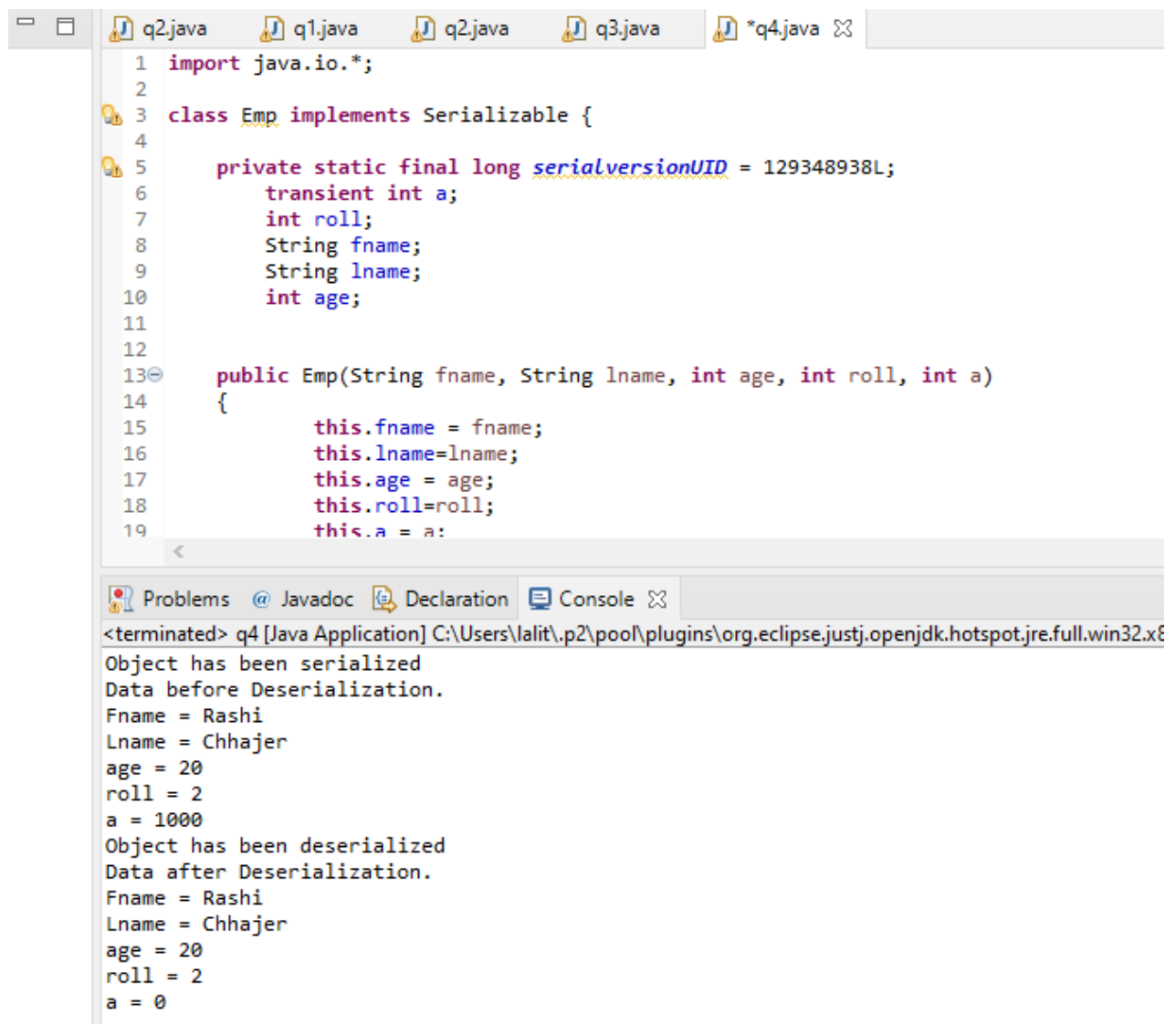
The screenshot shows the Eclipse IDE interface. The top toolbar includes icons for file operations and a search icon. The editor window displays the following Java code:

```
1 import java.util.*;
2
3
4 class exception1 extends Exception{
5
6 }
7
8 public class q3 {
9
10
11     static boolean isPrime(int n) {
12         //boolean flag = false;
13         if(n==1) return false;
14         for (int i = 2; i <= n / 2; i++) {
15             if (n % i == 0) {
16                 return false;
17             }
18         }
19         return true;
20     }
21 }
```

The bottom toolbar includes icons for Problems, Javadoc, Declaration, and Console. The Console window shows the output of the program:

```
<terminated> q3 [Java Application] C:\Users\lalit\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.j
1
Exception! 2 is a Prime Number
2
Exception! 3 is a Prime Number
3
4
Exception! 5 is a Prime Number
5
6
Exception! 7 is a Prime Number
7
8
9
10
Exception! 11 is a Prime Number
11
```

4.



The screenshot shows the Eclipse IDE interface. The top toolbar includes icons for file operations and a search icon. The editor window displays the source code for a Java class named `Emp`, which implements the `Serializable` interface. The code includes a static final `serialVersionUID`, transient and non-transient attributes, and a constructor. The bottom toolbar shows tabs for Problems, Javadoc, Declaration, and Console. The Console tab is active, displaying the output of a Java application, including messages about serialization and deserialization, and the state of the object before and after the process.

```
1 import java.io.*;
2
3 class Emp implements Serializable {
4
5     private static final long serialVersionUID = 129348938L;
6     transient int a;
7     int roll;
8     String fname;
9     String lname;
10    int age;
11
12
13    public Emp(String fname, String lname, int age, int roll, int a)
14    {
15        this.fname = fname;
16        this.lname=lname;
17        this.age = age;
18        this.roll=roll;
19        this.a = a;
```

<terminated> q4 [Java Application] C:\Users\lalit.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64.jdk\bin\java.exe
Object has been serialized
Data before Deserialization.
Fname = Rashi
Lname = Chhajer
age = 20
roll = 2
a = 1000
Object has been deserialized
Data after Deserialization.
Fname = Rashi
Lname = Chhajer
age = 20
roll = 2
a = 0