Assignment 3

1. Identify problems with this code:

```
public int searchAccount( int[25] number ) {
      number = new int[15];
      for (int i = 0; i < number.length; i++ )
            number[i] = number[i-1] + number[i+1];
      return number;
}
```

2. What will be the output of the following program?

```
public class College {
    public static void main(String[] args) {
        Student[] student = new Student[2];
        student[0] = new Student();
        student[0].name = "Khan";
        student[0] = new Student();
        student[0].name = "Kittu";
        student[1] = new Student();
        student[1].name = "Munna";
        for (Student element : student) {
            System.out.print(element.name + " ~ ");
        }
    }
}
class Student {
    String name;
}
```

3. What will be the output of the following?

A.

```
class Demo1 {
        public static void main(String args[]) {
                int i[] = new int[10];
                System.out.println(i[8]);
        }
}
```

B.

```
class Demo2{
    public static void main(String args[]) {
            Student students[] = new Student[10];
            System.out.println(students[5]);
    }
}
```

C.

```
class Demo3{
    public static void main(String args[]) {
        Student students[] = new Student[10];
        System.out.println(students[5].getName());
    }
}
```

4. Write a java program to find the largest and smallest element in an array of integers? for example if we have this array {1,4,-9,33,19,78,5} it should return 78 is the maximum and the minimum is -9

5. Write a java program to check the equality of two arrays? Two arrays are equal if each element in the first array is equal to the second element, for example
   Array1 = {1,3,5,6,6,7}
   Array2 = {1,3,5,6,6,7}
   The answer will be true.
   Another example
   Array1 = {1,3,5}
   Array2 = {1,3,5,7}
   The answer is false.

6. Can you change the size of the array once you define it? OR Can you insert or delete the elements after creating an array?

7. Declare an array of double of size 365 to store daily temperatures for one year. Using this data structure, write a code fragment to find the hottest and coldest days of the year.

8. Using a list (ArrayList), write a fortune telling program. Repeatedly prompt the user with the message

   ```
   Fortune (Y/N)?
   ```

   If the user enters Y, then display a randomly selected fortune from the list. If the user enters N, then stop the program. Define the class named Fortune. You can define and use a separate main class or include the main method in the Fortune class. Create the fortune list in the constructor. Include at least ten fortunes. The following are sample fortunes you can use:

   You will get 4.0 GPA this semester.

Happiness is programming.

Satisfaction follows hard work.

Patience is virtue.

9. A codon is a triplet of nucleotides that specifies a single amino acid (a protein is a sequence of amino acids). Write a program that outputs codons given a DNA (or RNA) sequence and stores them in an ArrayList. For example, if the input is GATTCGATC, the program stores GAT, TCG, and ATC in an ArrayList. If the length of an input string is not a multiple of 3, then ignore any leftover nucleotides. For example, if the input is GATTCGA, then output GAT and TCG. Repeat the operation until an empty string is entered. Output codons in the list using the for-each loop. Repeat the operation until an empty string is entered.

TRY TO SOLVE QUESTIONS WITH ARRAY AND ARRAYLIST.