1D Arrays

Q1: Write a program to print the sum of all the elements present on even indices in the given array.
Input 1: arr[] = {3,20,4,6,9}
Output 1: 16

```java
ANS. public class Time_1dArray {

    public static void main(String[] args) {

        int arr[] = {3,20,4,6,9};
        int sum = 0;

        for(int i = 0; i < arr.length; i += 2){
            sum += arr[i];
        }
        System.out.println("Sum at even indices are "
+ sum);
    }
}
```

Q2: Write a program to traverse over the elements of the array using for each loop and print all even elements.
Input 1: arr[] = {34,21,54,65,43}
Output 1: 34 54

```java
public class q2 {
    public static void main(String[] args) {

        int [] arr = {34,21,54,65,43};
```

```java
        for( int element : arr){
            if(element % 2 == 0){
                System.out.print(element + " ");
            }
        }
        System.out.println();
    }
}
```

Q3: Write a program to calculate the maximum element in the array.
Input 1: arr[] = {34,21,54,65,43}
Output 1: 65

```java
public class q3 {
    public static void main(String[] args) {

        int arr[] = {34,21,54,65,43};
        int max = Integer.MIN_VALUE;

        for(int i = 0; i < arr.length; i++){
            if(arr[i] > max){
                max = arr[i];
            }
        }
        System.out.println("Maximum is " +
max);
    }
}
```

Q4: Write a program to find out the second largest element in a given array.
Input 1: arr[] = {34,21,54,65,43}
Output 1: 54

```java
public class q4 {
    public static void main(String[] args) {

        int arr[] = {34,21,54,65,43};
        int max = Integer.MIN_VALUE;
        int secondMax = Integer.MIN_VALUE;

        for(int i = 0; i < arr.length; i++){
            if(arr[i] > max){
                max = arr[i];
            }
        }

        for(int i = 0; i < arr.length; i++){
            if(arr[i] > secondMax){
                if(arr[i] != max){
                    secondMax = arr[i];
                }
            }
        }
        System.out.println(secondMax);
    }
}
```

Q5: Given an array. Find the first peak element in the array. A peak element is an element that is greater than its just left and just right neighbor.
Input 1: arr[] = {1,3,2,6,5}
Output 1: 6

```java
public class q5 {
    public static void main(String[] args) {
```

```java
        int arr[] = {1,4,7,3,2,6,5};

        for(int i = 1; i < arr.length - 1; i++){
            if(arr[i] > arr[i-1] && arr[i] >
arr[i+1]){
                System.out.println(arr[i]);
                break;
            }
        }
    }
}
```