Assignment – 6

Practice Questions : 1

Q1) WAP to accept a line from user and count the number of vowels and consonants and words in it.

CODE :

Count.java

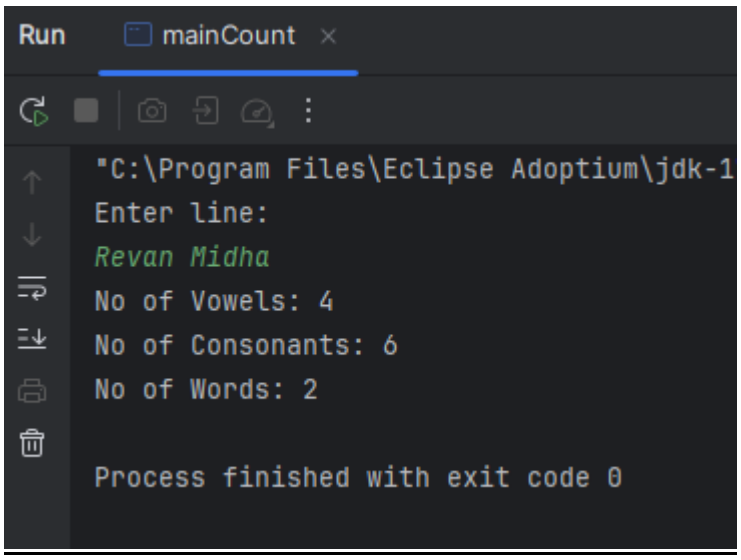
```java
package Practice4;

public class Count {  2 usages  RevanMidha005
    String checkVowelCons(char s){  1 usage  RevanMidha005
        if (s >= 'a' && s <= 'z'){
            if (s == 'a' || s == 'e' || s == 'i' || s == 'o' || s == 'u'){
                return "Vowel";
            }
            else {
                return "Consonant";
            }
        }
        else {
            return "Special";
        }
    }

    void countVowelCons(String line, int len){  1 usage  RevanMidha005
        String check;
        int v = 0, cons = 0;

        for (int i = 0; i < len; i++) {
            char c = line.charAt(i);
            check = checkVowelCons(c);

            if (check == "Vowel"){
                v += 1;
            }
            else if (check == "Consonant"){
                cons += 1;
            }
        }

        System.out.println("No of Vowels: " + v);
```

```
        System.out.println("No of Consonants: " + cons);
    }

    void countWord(String line, int len){  1 usage   RevanMidha005
        int c = 1;
        char ch;

        for (int i = 0; i < len; i++) {
            ch = line.charAt(i);
            if (ch == ' ') {
                c += 1;
            }
        }
        System.out.println("No of Words: " + c);

    }
}

```

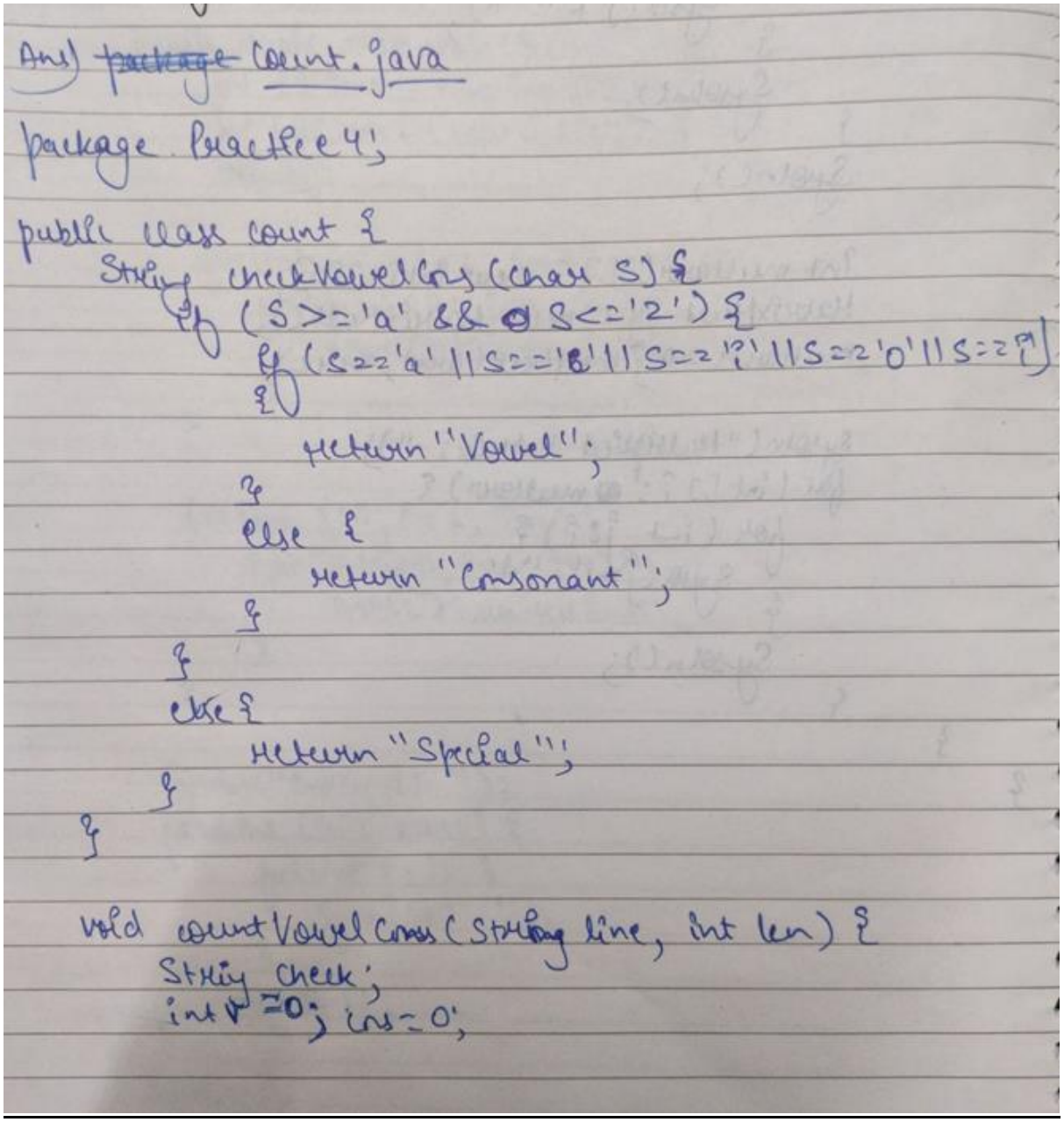
Count.java mainCount.java

```
package Practice4;
import java.util.Scanner;

public class mainCount {
    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        System.out.println("Enter line: ");
        String line = scn.nextLine();
        String LowerLine = line.toLowerCase();

        Count obj = new Count();
        obj.countVowelCons(LowerLine, LowerLine.length());
        obj.countWord(LowerLine, LowerLine.length());
    }
}
```

OUTPUT :


Run
mainCount
"C:\Program Files\Eclipse Adoptium\jdk-1
Enter line:
Revan Midha
No of Vowels: 4
No of Consonants: 6
No of Words: 2
Process finished with exit code 0

HANDWRITTEN :



Ans) ~~package~~ Count.java

```
package Practice4;

public class count {
    String checkVowelCons(char S) {
        if (S>='a' && S<='z') {
            if (S=='a' || S=='e' || S=='i' || S=='o' || S=='u')
            {
                return "Vowel";
            }
            else {
                return "Consonant";
            }
        }
        else {
            return "Special";
        }
    }

void countVowelCons(String line, int len) {
    String check;
    int v=0; cns=0;
```

```
for (int i=0; i<len; i++){
    char c = line.charAt(i);
    check = checkVowel(cons(c);

    if (check == "Vowel"){
        V+=1;
    }
    else if (check == "Consonant"){
        cons+=1;
    }
}

System("No. of Vowels:"+V);
System("No. of Consonants: " + Cons);

}

void countWord (String line, int len){
    int c=1;
    char ch;

    for(int i=0; i<len; i++){
        ch = line.charAt(i);
        if (ch == ' '){
            c+=1;
        }
    }
    System("No. of words: "+c);

}
}
```

mainCount.java

```
package Practice4;
import java.util.Scanner;

public class mainCount {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System("Enter line: ");
        String line = sc.nextLine();
        String lowerLine = line.toLowerCase();

        Count obj = new Count();
        obj.countVowels(lowerLine, lowerLine.length);
        obj.countWord(lowerLine, lowerLine.length);

    }
}
```

Q2) WAP to accept 10 lines from user and display the second largest line.

CODE :

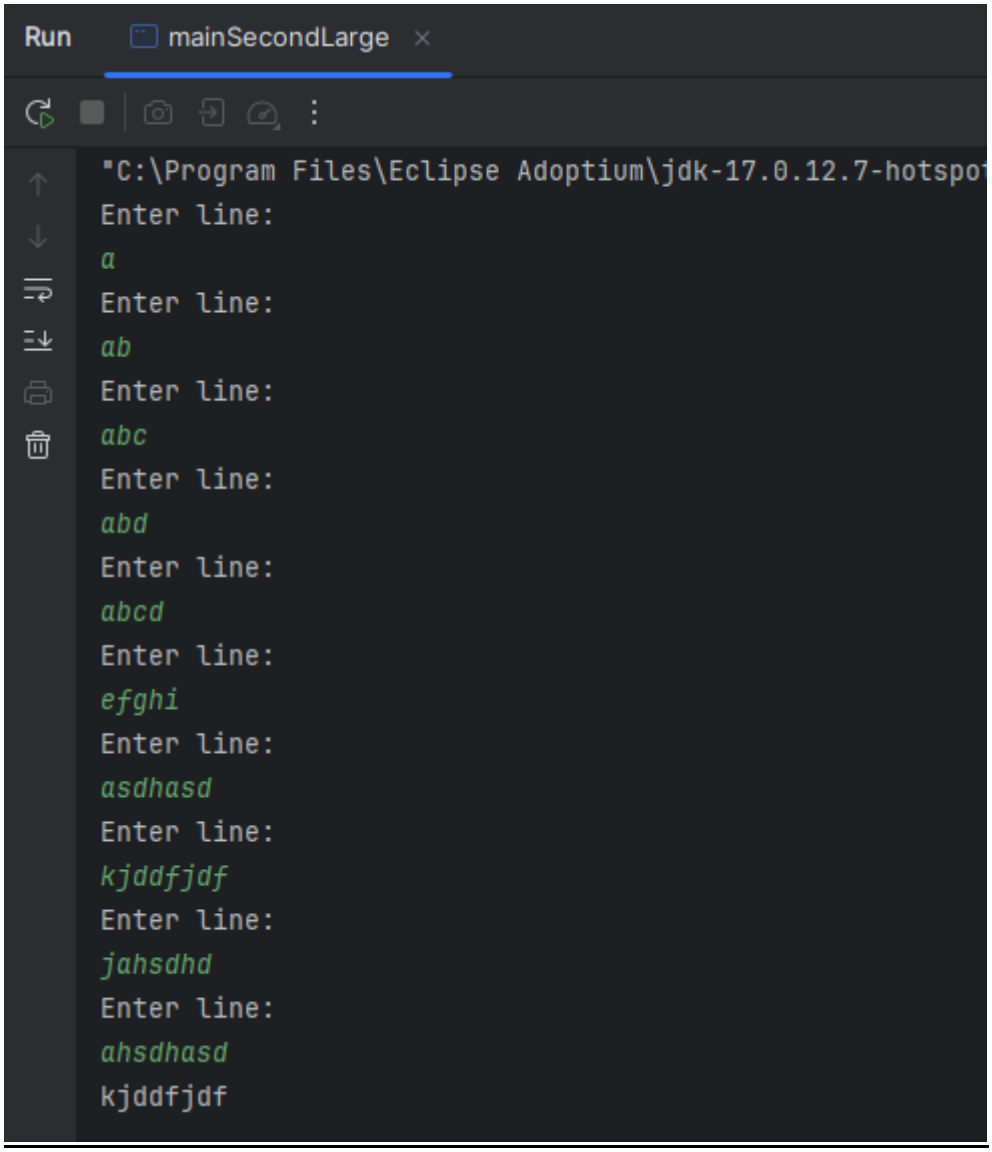
SecondLarge.java

```java
package Practice4;

public class SecondLarge {  2 usages  RevanMidha005 *
    void dispSecondLarge(String[] arr) {  1 usage  RevanMidha005 *
        String maxi = "";
        String smaxi = "";

        for (String s : arr){
            if (s.length() >= maxi.length()){
                smaxi = maxi;
                maxi = s;
            }
        }
        System.out.println(smaxi);
    }
}
```

mainSecondLarge.java

```java
package Practice4;
import java.util.Scanner;

public class mainSecondLarge {  RevanMidha005
    public static void main(String[] args) {  RevanMidha005
        Scanner scn = new Scanner(System.in);
        String []arr = new String[10];

        for (int i = 0; i < 10; i++) {
            System.out.println("Enter line: ");
            arr[i] = scn.nextLine();
        }

        SecondLarge obj = new SecondLarge();
        obj.dispSecondLarge(arr);
    }
}
```

OUTPUT :


Run
mainSecondLarge
"C:\Program Files\Eclipse Adoptium\jdk-17.0.12.7-hotspot
Enter line:
a
Enter line:
ab
Enter line:
abc
Enter line:
abd
Enter line:
abcd
Enter line:
efghi
Enter line:
asdhasd
Enter line:
kjddfjdf
Enter line:
jahsdhd
Enter line:
ahsdhasd
kjddfjdf

HANDWRITTEN :

Ans) SecondLargest.java

```
package Practice4;
public class SecondLarge {
    public String dispSecLarge(String[] arr) {
        String maxi = "";
        String smaxi = "";

        for (String S: arr) {
            if (S.length() >= maxi.length()) {
                smaxi = maxi
                maxi = S;
            }
        }
        System.out.println(smaxi);
    }
}
```

mainSecondLarge.java

```
package Practice4;
import java.util.Scanner;

public class mainSecondLarge {
    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        String [] arr = new String [10];
```

```
for (int i=0; i<10; i++) {
    System.out.println("Enter line: ");
    arr[i] = sc.nextInt();
}

SecondLarge obj = new SecondLarge();
obj.dispSecLarge(arr);
    }
}
```

Q3) WAP to rotate (clockwise) a given array by 1.

CODE :

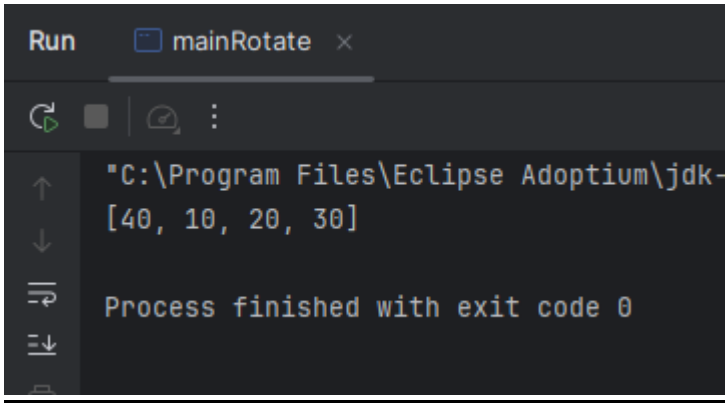
RotateArray.java

```java
package Practice4;

public class RotateArray {  2 usages  RevanMidha005
    int[] Rotator(int []arr, int n){  1 usage  RevanMidha005
        int len = arr.length;
        int temp = arr[len-1];

        for (int i = len - 1; i >= 1; i--) {
            arr[i] = arr[i-1];
        }
        arr[0] = temp;
        return arr;
    }
}

```

mainRotate.java

```java
package Practice4;
import java.util.Arrays;

public class mainRotate {  RevanMidha005
    public static void main(String[] args) {  RevanMidha005
        RotateArray obj = new RotateArray();
        int []arr = {10, 20, 30, 40};

        arr = obj.Rotator(arr,  n: 1);
        System.out.println(Arrays.toString(arr));
    }
}
```

OUTPUT :


Run
mainRotate
"C:\Program Files\Eclipse Adoptium\jdk-
[40, 10, 20, 30]
Process finished with exit code 0

HANDWRITTEN :

Ans) RotateArray.java

```
package Practice4;

public class RotateArray {
    int [] Rotator (int [] arr) {
        int len = arr.length;
        int temp = arr[len-1];

        for (int i = len-1; i >=1; i--){
            arr[i] = arr[i-1];
        }
        arr[0] = temp;
        return arr;
    }
}
```

mainRotate.java

```
package Practice4;
import java.util.Arrays;

public class mainRotate {
    public static void main( String[] args ) {
        RotateArray obj = new RotateArray ();
        int [] arr = {10, 20, 30, 40};

        arr = obj.Rotator(arr);
        System.out.println(Arrays.toString(arr));
    }
}
```

Spiral