Week 2

Q.3 Read the degree of two polynomials and their coefficients, all integers, from the standard input. The polynomial is of the form ()=*+…+1*1+, where 0≠0.

A. Write a pseudocode for adding two polynomials

Ans> The pseudocode for adding two polynomials are:

1. Start
2. Declare first polynomial as array1[1,2,3,4,5]
3. Declare second polynomial as array2[9,8,7,6]
4. Declare third array as sum[array1.length]
5. Declare i=0
6. For loops until I is less than size of array
7. Sum[i]=array[i]+array1
8. i++
9. next loop
10. output sum
11. End

Q.4 Write the pseudocode and code for a function that determines whether given word is palindrome. What is the time complexity (expressed using BigO notation)?

Ans> Pseudocode for a function that determines whether a word is palindrome is written below:

1. START
2. Display “Enter characters”
3. Declare reverse
4. reverse=""
5. Declare str
6. str=input a string
7. for i <= length[str]-1 to i<= 0 i++
   reverse=reverse+str.charAt(i)
8. If str equals to reverse THEN
   Display “string is a palindrome”
9. OR

   Display “string is not a palindrome”

10. END

The code for above algorithm is written below:

```
1  package finalAssignment;
2
3  import java.util.Scanner;
4
5  public class Palindrome {
6      private void palin(String str) {
7          String reverse="";  //variable that stores reverse word
8          for (int i = str.length() - 1 ; i >= 0 ; i--)
9                reverse = reverse + str.charAt(i);
10         if (str.equals(reverse)) {
11             System.out.println("The word is palindrome");
12         }
13         else
14         {
15             System.out.println("The word is not palindrome");
16         }
17
18     }
19
20     public static void main(String[] args) {
21         Scanner s = new Scanner(System.in);
22         System.out.println("Enter a word");
23         String str = s.nextLine(); //variable that stores user input
24         Palindrome p = new Palindrome(); //creating an object of a class
25         p.palin(str);
26
27
28     }
29
```

Figure 1:Palindrome