

WEEK 6

1. Write a Java program to print the odd numbers from 1 to 99.

The terminal window shows four tabs at the top: week6_1.java, week6_2.java, week6_3.java, and week6_4.java. The week6_1.java tab is active, displaying the following Java code:

```
1 public class week6_1 {    public static void main(String[] args) {        for (int i = 1; i < 100; i+=2)            System.out.println(i);    }}
```

Below the code, the terminal outputs the sequence of odd numbers from 1 to 99, followed by "Process finished with exit code 0".

```
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99
Process finished with exit code 0
```

2. Write a Java program to check whether a number is prime or not.

The terminal window shows four tabs at the top: week6_1.java, week6_2.java, week6_3.java, and week6_4.java. The week6_2.java tab is active, displaying the following Java code:

```
1 import java.util.Scanner;
2
3 public class week6_2 {    public static void main(String[] args) {        Scanner sc = new Scanner(System.in);        System.out.println("Enter a number :");        int n = sc.nextInt();        boolean flag = true;        for (int i = 2; i < n; i++)            if (n % i == 0) {                flag = false;                break;            }        if (flag) System.out.println("Prime");        else System.out.println("Not Prime");    }}
```

Below the code, the terminal prompts the user to enter a number, receives the input "41", and then outputs "Prime".

```
"C:\Program Files\Java\]
Enter a number :
41
Prime"
```

3. Write a Java program to swap the first and last elements of an array.

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```
week6_1.java  week6_2.java  week6_3.java  week6_4.java

1 import java.util.Scanner;
2
3 public class week6_3 { & Stephen047
4     public static void main(String[] args) { & Stephen047
5         Scanner sc = new Scanner(System.in);
6         System.out.println("Enter length of Array :");
7         int l = sc.nextInt();
8         int[] arr = new int[l];
9         System.out.println("Enter the elements :");
10        for(int i=0;i<l;i++) arr[i] = sc.nextInt();
11        System.out.println("Current Array :");
12        for(int i=0;i<l;i++) System.out.print(arr[i]+", ");
13        System.out.println();
14        int temp = arr[l - 1];
15        arr[l - 1] = arr[0];
16        arr[0] = temp;
17        System.out.println("After swap :");
18        for(int i=0;i<l;i++) System.out.print(arr[i]+", ");
19    }
20
21 }
```

Enter length of Array :
5
Enter the elements :
1 2 3 4 5
Current Array :
1, 2, 3, 4, 5,
After swap :
5, 2, 3, 4, 1,
Process finished with exit code 0

4. Write a Java program to find the maximum and minimum among array elements.

```
week6_1.java  week6_2.java  week6_3.java  week6_4.java

1 import java.util.Scanner;
2
3 public class week6_4 { & Stephen047
4     public static void main(String[] args) { & Stephen047
5         Scanner sc = new Scanner(System.in);
6         System.out.println("Enter length of Array :");
7         int l = sc.nextInt();
8         int[] arr = new int[l];
9         System.out.println("Enter the elements :");
10        int max=0, min=0;
11        for(int i=0;i<l;i++) {
12            arr[i] = sc.nextInt();
13            if(i==0) {
14                max = arr[i];
15                min = arr[i];
16            }
17            if(arr[i] > max) max = arr[i];
18            if(arr[i] < min) min = arr[i];
19        }
20        System.out.println("Biggest element = "+max);
21        System.out.println("Smallest element = "+min);
22    }
23 }
```

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```
Enter length of Array :  
5  
Enter the elements :  
21 54 67 98 21  
Biggest element = 98  
Smallest element = 21
```

5. Write a Java program to print all prime numbers between 0 to 100.

The screenshot shows a Java code editor with several files listed in the top bar: week6_1.java, week6_2.java, week6_3.java, week6_4.java, and week6_5.java. The current file, week6_5.java, contains the following code:

```
1 public class week6_5 {  
2     public static void main(String[] args) {  
3         Outer : for (int i=0; i<=100; i++){  
4             if (i == 0 || i == 1) continue;  
5             for (int j=2; j<i; j++) if (i%j == 0) continue Outer;  
6             System.out.print(i+" ");  
7         }  
8     }  
9 }
```

Below the code editor is a terminal window showing the output of the program:

```
c:\Program Files\Java\jdk_17\bin\java.exe -jar d:\Program Files\Java\javadagen.jar  
2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97  
Process finished with exit code 0
```

6. Write a Java program to implement linear search.

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```
④ week6_1.java ④ week6_2.java ④ week6_3.java ④ week6_4.java
1 import java.util.Scanner;
2
3 ► public class week6_6 { & Stephen047
4 ►     public static void main(String[] args) { & Stephen047
5         Scanner sc = new Scanner(System.in);
6         System.out.println("Enter length of Array :");
7         int l = sc.nextInt();
8         int[] arr = new int[l];
9         System.out.println("Enter the elements :");
10        for(int i=0;i<l;i++) arr[i] = sc.nextInt();
11        System.out.println("Enter target :");
12        int x = sc.nextInt();
13        boolean flag = false;
14        int i;
15        for(i=0; i<l; i++){
16            if (x == arr[i]){
17                flag = true;
18                break;
19            }
20        if (flag) System.out.println("Found at index "+i);
21        else System.out.println("Not found");
22    }
23 }
```

```
Enter length of Array :
5
Enter the elements :
5 6 4 9 10
Enter target :
9
Found at index 3
```

7. Write a Java program to print all prime numbers between 0 to 100.

```
④ week6_6.java ④ week6_7.java × ④ week6_8.java ④ week6_9.java ④ week6_
1 ► public class week6_7 { & Stephen047*
2 ►     public static void main(String[] args) { & Stephen047*
3         Outer : for (int i=0; i<=100; i++){
4             if (i == 0 || i == 1) continue;
5             for (int j=2; j<i; j++) if (i%j == 0) continue Outer;
6             System.out.print(i+" ");
7         }
8     }
9 }
```

```
"C:\Program Files\Java\jdk-17\bin\java.exe" "-javaagent:C:\Program Files\
2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97
Process finished with exit code 0
```

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8. Write a Java program to find the second largest element in an array.

```
week6_6.java    week6_7.java    week6_8.java  week6_9.java
1 import java.util.Scanner;
2
3 public class week6_8 {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         System.out.println("Enter length of Array :");
7         int l = sc.nextInt();
8         int[] arr = new int[l];
9         System.out.println("Enter the elements :");
10        int maxi = 0;
11        for(int i=0;i<l;i++) {
12            arr[i] = sc.nextInt();
13            if(arr[i] > arr[maxi]) maxi = i;
14        }
15        int m2 = arr[0];
16        for(int i=0;i<l;i++) {
17            if(i == maxi) continue;
18            if(arr[i] > m2) m2 = arr[i];
19        }
20        System.out.println("2nd Biggest : "+m2);
21    }
22 }
```

```
"C:\Program Files\Java\jdk-17\bin\java.exe" "-Dfile.encoding=UTF-8"
Enter length of Array :
5
Enter the elements :
21 48 56 19 18
2nd Biggest : 48
```

9. Write a program to implement Fibonacci series up to N terms.

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```
1 import java.util.Scanner;
2
3 public class week6_9 {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         System.out.println("Enter N :");
7         int n = sc.nextInt();
8         if (n >= 1) System.out.print("0 ");
9         if (n >= 2) System.out.print("1 ");
10        if (n >= 3){
11            int a = 0, b = 1;
12            int c;
13            for (int i = 2; i <= n; i++){
14                c = a+b;
15                a = b;
16                b = c;
17                System.out.print(c+" ");
18            }
19        }
20    }
21 }
```

```
Enter N :
10
0 1 1 2 3 5 8 13 21 34 55
Process finished with exit code 0
```

10. Write a Java program to reverse all elements of an array.

```
Enter length of Array :
5
Enter the elements :
1 2 3 4 5
Current Array :
1, 2, 3, 4, 5,
Current Array :
5, 4, 3, 2, 1,
Process finished with exit code 0
```

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```
week6_6.java week6_7.java week6_8.java week6_9.java week6_10.java
1 import java.util.Scanner;
2
3 public class week6_10 { Stephen047
4     public static void main(String[] args) { Stephen047
5         Scanner sc = new Scanner(System.in);
6         System.out.println("Enter length of Array :");
7         int l = sc.nextInt();
8         int[] arr = new int[l];
9         System.out.println("Enter the elements :");
10        for(int i=0;i<l;i++) arr[i] = sc.nextInt();
11        System.out.println("Current Array :");
12        for(int i=0;i<l;i++) System.out.print(arr[i]+", ");
13        System.out.println();
14        for (int i=0;i<l/2;i++){
15            int temp = arr[i];
16            arr[i] = arr[l-1-i];
17            arr[l-1-i] = temp;
18        }
19        System.out.println("Current Array :");
20        for(int i=0;i<l;i++) System.out.print(arr[i]+", ");
21    }
22}
```

11. Write a Java program to find the frequency of each character in a given string.

```
week6_6.java week6_7.java week6_8.java week6_9.java week6_10.java
1 import java.util.Scanner;
2
3 public class week6_11 { Stephen047
4     public static void main(String[] args) { Stephen047
5         Scanner sc = new Scanner(System.in);
6         System.out.println("Enter String :");
7         String str = sc.nextLine();
8         for (int i = 0; i < str.length(); i++){
9             char c = str.charAt(i);
10            int count = 0;
11            for (int j = 0; j < str.length(); j++) if (str.charAt(j) == c) count++;
12            System.out.println("Freq of "+c+" = "+count);
13        }
14    }
15}
```

```
Enter String :
Shafin
Freq of S = 1
Freq of h = 1
Freq of a = 1
Freq of f = 1
Freq of i = 1
Freq of n = 1
```