

2.1

```
1 public static void l21(String[] arg){
2     int x = 0;
3     System.out.println("\nUnit 2.1.1");
4     System.out.println("x = " + ++x); //2.1.1
5     x = x % 3 + 2; //2.1.2
6     System.out.println("\nUnit 2.1.2");
7     System.out.println("x = " + x);
8     System.out.println("\nUnit 2.1.3");
9     if(x > 3)
10         System.out.println("x > 3"); //2.1.3
11     else
12         System.out.println("x <= 3");
13     System.out.println("\nUnit 2.1.4");
14     String str = (x > 3) ? "String showed x > 3":"String showed x <= 3";
15     System.out.println(str);//2.1.4
16 }
```

OUTPUT

```
Unit 2.1.1
x = 1

Unit 2.1.2
x = 3

Unit 2.1.3
x <= 3

Unit 2.1.4
String showed x <= 3
```

2.2

```
1 public static void l22(String[] arg)
2 {
3     int day = 10;
4     System.out.println("\nUnit 2.2.1");
5     if(day > 7){
6         System.out.println("Days > 7"); //2.2.1
7         day %= 7;
8     }
9     else
10        System.out.println("Days <= 7");
11    System.out.println();
12    System.out.println("\nUnit 2.2.2");
13    switch (day)
14    { //2.2.2
15        case 1:
16            System.out.println("Monday");
17            break;
18        case 2:
19            System.out.println("Tuesday");
20            break;
21        case 3:
22            System.out.println("Wednesday");
23            break;
24        case 4:
25            System.out.println("Thursday");
26            break;
27        case 5:
28            System.out.println("Friday");
29            break;
30        case 6:
31            System.out.println("Saturday");
32            break;
33        case 7:
34            System.out.println("Sunday");
35            break;
36    }
37    System.out.println();
38    int x = 0;
39    System.out.println("\nUnit 2.2.3");
40    for(int i = 0; i < day; i++)//2.2.3
41    {
42        System.out.println("for : " + x++);
43    }
44    System.out.println();
45    System.out.println("\nUnit 2.2.4");
46    while(x > 0)//2.2.4
47    {
48        x--;
49        System.out.println("While(" + x + " > 0)");
50    }
51    System.out.println();
52    System.out.println("\nUnit 2.2.5");
53    do //2.2.5
54    {
55        System.out.println("While(" + x + ") < 5");
56        x++;
57    }while(x < 5);
58    System.out.println();
59 }
```

OUTPUT

```
Unit 2.2.1  
Days > 7
```

```
Unit 2.2.2  
Wednesday
```

```
Unit 2.2.3  
for : 0  
for : 1  
for : 2
```

```
Unit 2.2.4  
While(2 > 0)  
While(1 > 0)  
While(0 > 0)
```

```
Unit 2.2.5  
While(0) < 5  
While(1) < 5  
While(2) < 5  
While(3) < 5  
While(4) < 5
```

2.3

```
1 public static void l23(String[] arg)
2 {
3     System.out.println("\nUnit 2.3.1");
4     int[] a1 = new int[10]; //2.3.1
5     int[] a2 = {3, 5, 7, 1, 8, 99, 44, -10 };
6     int[] a3 = {4, 3, 2, 1};
7     System.out.println("size of a1 : "+ a1.length);
8     System.out.println("size of a2 : "+ a2.length);
9     System.out.println("size of a3 : "+ a3.length);
10
11     int[][] a4 = {{0, 1, 2}, {3, 4, 5}, {6, 7, 8}}; //2.3.2
12     System.out.println("\nUnit 2.3.2");
13     for(int i = 0; i < 3; i++)
14     {
15         for(int j = 0; j < 3; j++)
16         {
17             System.out.print(a4[i][j] + " ");
18         }
19         System.out.println();
20     }
21 }
```

OUTPUT

```
Unit 2.3.1
size of a1 : 10
size of a2 : 8
size of a3 : 4

Unit 2.3.2
0 1 2
3 4 5
6 7 8
```

2.4

```
1 public static void l24(String[] arg)
2 {
3     System.out.println("\nUnit 2.4");
4     int[] arr = {234,6,846,85,96,198,545,12,60,34,4,87,7,1};
5     Arrays.sort(arr); //import java.util.Arrays; //2.4
6     System.out.println("Sorted arr : ");
7     for(int i = 0; i < arr.length; i++)
8     {
9         System.out.print(arr[i] + " ");
10    }
11    System.out.println();
12 }
```

OUTPUT

```
Unit 2.4
Sorted arr :
1 4 6 7 12 34 60 85 87 96 198 234 545 846
```

2.5

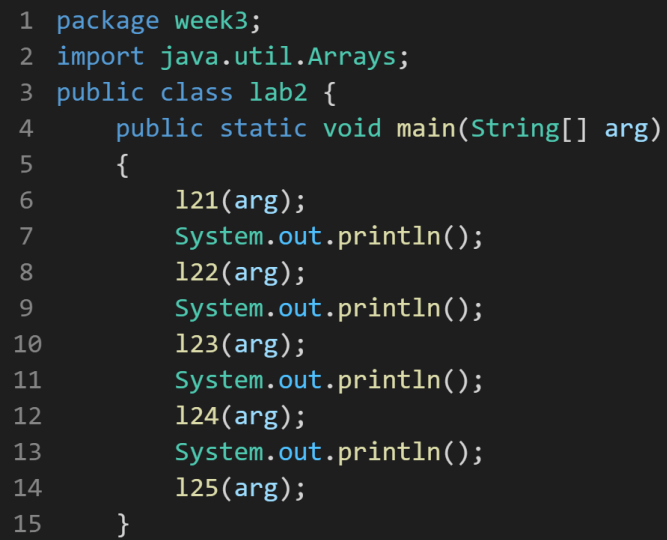
```
1 public static void l25(String[] arg)
2     {
3         System.out.println("\nUnit 2.5.1");
4         int[][]a = { {4,7,9,8,3},{2,4,7,8,1},{1,1,8,1,2},{0,0,1,0,4}};
5         int[][]b = { {1,2,8,4,3},{4,1,8,3,1},{2,1,0,0,5},{1,2,1,1,7}};
6         int[][]add = new int[5][6];
7         System.out.println("Addition : ");//2.5.1
8         for(int i = 0; i < 4; i++)
9         {
10             for(int j = 0; j < 5; j++)
11             {
12                 add[i][j] = a[i][j] + b[i][j];
13                 System.out.print(add[i][j] + "\t");
14             }
15             System.out.println();
16         }
17
18         System.out.println("\nUnit 2.5.2");
19         int[][]aa ={{1,2,3},{4,5,6},{2,3,4}};
20         int[][]bb ={{1,2,3},{4,5,6},{2,3,4}};
21         int[][]mul = new int[4][4];
22         System.out.println("Multiplication : ");//2.5.2
23         for(int i = 0; i < 3; i++)
24         {
25             for(int j = 0; j < 3; j++)
26             {
27                 mul[i][j] = aa[i][j] * bb[j][i];
28                 System.out.print(mul[i][j] + "\t");
29             }
30             System.out.println();
31         }
```

OUTPUT

```
Unit 2.5.1
Addition :
5      9      17      12      6
6      5      15      11      2
3      2      8       1      7
1      2      2       1     11

Unit 2.5.2
Multiplication :
1      8      6
8      25     18
6      18     16
```

MAIN FUNC



```
1 package week3;
2 import java.util.Arrays;
3 public class lab2 {
4     public static void main(String[] arg)
5     {
6         l21(arg);
7         System.out.println();
8         l22(arg);
9         System.out.println();
10        l23(arg);
11        System.out.println();
12        l24(arg);
13        System.out.println();
14        l25(arg);
15    }
```