

CS 1400 Chapter 1 Assignment 1

Terminal Drawing Methods:

```
36 private static void MakeDigits()
37 {
38     System.out.print(s:"  |");
39     for (int i = 0; i < 10; i++)
40     {
41         System.out.format(format:"%-4d|", i);
42     }
43     System.out.println();
44 }
45
46
47 private static void MakeRow()
48 {
49     for (int i = 0; i < 11; i++)
50     {
51         System.out.format(format:"-----", i);
52     }
53     System.out.println();
54 }
```

Interface for expressions:

```
56 public interface AssignValue {
57     public int op(int a, int b);
58 }
```

Create Table method:

```
15 private static void CreateTable(AssignValue operator)
16 {
17     MakeRow();
18     MakeDigits();
19     MakeRow();
20
21
22     for (int y = 0; y < 10; y++)
23     {
24         System.out.format(format:"%-4d|", y);
25         for (int x = 0; x < 10; x++)
26         {
27             System.out.format(format:"%5d", operator.op(x, y));
28         }
29         System.out.println();
30         MakeRow();
31     }
32 }
```

Main method:

```
3 public static void main(String[] args)
4 {
5     AssignValue addition = (a, b) -> a + b;
6     AssignValue multiplication = (a, b) -> a * b;
7
8     System.out.println(x:"Addition Table");
9     CreateTable(addition);
10
11     System.out.println(x:"Multiplication Table");
12     CreateTable(multiplication);
13 }
```

Terminal Output:

```
Addition Table
-----
|0|1|2|3|4|5|6|7|8|9|
-----
0|0|1|2|3|4|5|6|7|8|9|
-----
1|1|2|3|4|5|6|7|8|9|10|
-----
2|2|3|4|5|6|7|8|9|10|11|
-----
3|3|4|5|6|7|8|9|10|11|12|
-----
4|4|5|6|7|8|9|10|11|12|13|
-----
5|5|6|7|8|9|10|11|12|13|14|
-----
6|6|7|8|9|10|11|12|13|14|15|
-----
7|7|8|9|10|11|12|13|14|15|16|
-----
8|8|9|10|11|12|13|14|15|16|17|
-----
9|9|10|11|12|13|14|15|16|17|18|
-----
Multiplication Table
-----
|0|1|2|3|4|5|6|7|8|9|
-----
0|0|0|0|0|0|0|0|0|0|0|
-----
1|0|1|2|3|4|5|6|7|8|9|
-----
2|0|2|4|6|8|10|12|14|16|18|
-----
3|0|3|6|9|12|15|18|21|24|27|
-----
4|0|4|8|12|16|20|24|28|32|36|
-----
5|0|5|10|15|20|25|30|35|40|45|
-----
6|0|6|12|18|24|30|36|42|48|54|
-----
7|0|7|14|21|28|35|42|49|56|63|
-----
8|0|8|16|24|32|40|48|56|64|72|
-----
9|0|9|18|27|36|45|54|63|72|81|
-----
```