Ankara University
Computer Engineering Department
COM267 HW 1
Due Date: 13.10.2017 23:59

The Logo language, which is particularly popular among personal computer users, made the concept of turtle graphics famous. Imagine a mechanical turtle that walks around the room under the control of a C++ program. The turtle holds a pen in one of two positions, up or down. While the pen is down, the turtle traces out shapes as it moves; while the pen is up, the turtle moves about freely without writing anything. In this problem, you will simulate the operation of the turtle and create a computerized sketchpad as well. Use a 20-by-20 array **floor** which is initialized to zeros. Read commands from an array that contains them. Keep track of the current position of the turtle at all times and whether the pen is currently up or down. Assume that the turtle always starts at position 0.0 of the floor with its pen up. The set of turtle commands your program must process are as follows:

Command	**Meaning**
1	Pen up
2	Pen down
3	Turn right
4	Turn left
5 10	Move forward 10 spaces (or a number other than 10)
6	Print the 20-by-20 array
9	End of data

Suppose that the turtle is somewhere near the center of the floor. The following “program” (set of commands) would draw and print a 7-by-7-square leaving the pen in the up position:
(Different set of commands would draw different patterns.)

Input

```
2
5 7
3
5 7
3
5 7
3
5 7
1
6
9
```

Output

```
* * * * * * *
*           *
*           *
*           *
*           *
*           *
* * * * * * *
```

As the turtle moves with the pen down, set the appropriate elements of array **floor** to **1**s. When the **6** command (print) is given, wherever there is a **1** in the array, display a star. Wherever there is a zero display a blank. Write a program to implement the turtle graphics capabilities discussed here.
(C++ How to Program Deitel & Deitel)