Problem 5

Houston Skyline

5 points

JAVA: program name must be prob05.class
C /C++ program name must be: prob05.exe

Task Description

Write a program that will produce a silhouette of the Houston skyline, given the height and placement of a series of buildings.

Program Input

Prompt the user for the start location (the left edge) [1..60], the width [1..40], and height [1..20] of each building. Note that the dimensions of a building are a measure of its interior, and does not count the outside edges. A building of width 1 and height 6 will actually consume 3 columns and 8 rows on the silhouette. Continue prompting for more buildings until a zero is entered for the start location. The entire skyline will fit within 50 columns wide and a maximum height of 20 rows. There will be no more than 16 buildings.

```
Enter building #1's start:    3
Enter building #1's width:    3
Enter building #1's height:   3

Enter building #2's start:    10
Enter building #2's width:    5
Enter building #2's height:   2

Enter building #3's start:    4
Enter building #3's width:    3
Enter building #3's height:   7

Enter building #4's start:    10
Enter building #4's width:    1
Enter building #4's height:   10

Enter building #5's start:    0
```

Program Output

Output to the screen the outline of the resulting silhouette. Smaller buildings may be completely hidden by larger ones.

```
          +-+
          | |
          | |
    +---+ | |
    |   | | |
    |   | | |
    |   | | |
   ++   | | |
   |    | | +---+
   |    | |     |
   |    | |     |
---+    +-+     +-----------------------------------
12345678901234567890123456789012345678901234567890
```