

Two-Dimensional Arrays: Character Graphics

For this assignment, you are to implement a simple drawing program. The program will draw on the screen a series of figures (boxes). It will repeatedly ask the user to enter the location and dimensions of a box, and then it will add the new box to the display. The box location and dimensions are defined as follows:

Value	Description
x0	the x-coordinate of the upper left corner of the box
y0	the y-coordinate of the upper left corner of the box
width	the width of the box in characters
height	the height of the box in characters

Here is a sample run:

SAMPLE RUN

```
Enter x0, y0, width, height: 20 10 15 5
```

```
0000000000111111111122222222223333333333
0123456789012345678901234567890123456789
00.....
01.....
02.....
03.....
04.....
05.....
06.....
07.....
08.....
09.....
10.....AAAAAAAAAAAAAAAA.....
11.....A.....A.....
12.....A.....A.....
13.....A.....A.....
14.....AAAAAAAAAAAAAAAA.....
15.....
16.....
17.....
18.....
19.....
```

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C Programming

Homework #4

Enter x0, y0, width, height: 5 2 30 2

```
0000000000111111111122222222223333333333
0123456789012345678901234567890123456789
00.....
01.....
02....BBBBBBBBBBBBBBBBBBBBBBBBBBBBBB.....
03....BBBBBBBBBBBBBBBBBBBBBBBBBBBBBB.....
04.....
05.....
06.....
07.....
08.....
09.....
10.....AAAAAAAAAAAAAAAA.....
11.....A.....A.....
12.....A.....A.....
13.....A.....A.....
14.....AAAAAAAAAAAAAAAA.....
15.....
16.....
17.....
18.....
19.....
```

Enter x0, y0, width, height: 15 5 10 10

```
0000000000111111111122222222223333333333
0123456789012345678901234567890123456789
00.....
01.....
02....BBBBBBBBBBBBBBBBBBBBBBBBBBBBBB.....
03....BBBBBBBBBBBBBBBBBBBBBBBBBBBBBB.....
04.....
05.....CCCCCCCC.....
06.....C.....C.....
07.....C.....C.....
08.....C.....C.....
09.....C.....C.....
10.....C....AAAACAAAAAAAAA.....
11.....C...A...C.....A.....
12.....C...A...C.....A.....
13.....C...A...C.....A.....
14.....CCCCCCCCAAAAAAAAA.....
15.....
16.....
17.....
18.....
19.....
```

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C Programming

Homework #4

Enter x0, y0, width, height: 6 9 1 1

```
0000000000111111111122222222223333333333
0123456789012345678901234567890123456789
00.....
01.....
02....BBBBBBBBBBBBBBBBBBBBBBBBBBBBBB.....
03....BBBBBBBBBBBBBBBBBBBBBBBBBBBBBB.....
04.....
05.....CCCCCCCC.....
06.....C.....C.....
07.....C.....C.....
08.....C.....C.....
09....D.....C.....C.....
10.....C....AAAACAAAAAAAAA.....
11.....C....A...C.....A.....
12.....C....A...C.....A.....
13.....C....A...C.....A.....
14.....CCCCCCCCAAAAAAAAA.....
15.....
16.....
17.....
18.....
19.....
```

Enter x0, y0, width, height: 0 0 0 0

Note that the boxes are displayed against a background of '.' characters (period). The boxes themselves are drawn using letter characters. The first box is drawn with A's, the second box with B's, etc. Also notice that row and column numbers are displayed along the top side and the bottom side of the grid.