

# CPSC 1301, Computer Science I Quiz

## Quiz 5a

This is a timed test. You have thirty minutes to complete the test. Your deliverable will be a plain text file, that is, an ASCII file with a `.txt` file extension. When you finish the test, upload your deliverable to Canvas. Do not publish your answer to your `git` repository. You may work with your study partner for this quiz. In fact, working together is strongly encouraged. If you work with a partner, you must each make a separate submission for credit, but you must also include the names of both authors in your submission.

Consider the following  $10 \times 10$  matrix. It has ten rows, 1 through 10, and ten columns 1 through 10. Each cell contains an integer, from 1 to 100, in numerical order. The integers identify the cells. Each cell has both a *row number* and a *column number*. For example, cell 23 is in row 3, column 3. Cell 66 is in row 7, column 6. What row and column is cell 48?<sup>1</sup>

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Next consider the following program. Yes, this is a complete program, with a couple of question marks. Replace each question mark with an arithmetic expression that returns the row and column of the cell. See the output below for an example.

```
1 while True:
2     print("Please enter a cell number (from 1 to 100), 0 to quit: ")
3     cell = int(input())
4     if cell < 1:
5         break
6     print("\tCell", cell, "is in row", ?, "and is in column", ?)
7
8 print("Goodbye")
```

```
Please enter a cell number (from 1 to 100), 0 to quit: 1
    Cell 1 is in row 1 and is in column 1
Please enter a cell number (from 1 to 100), 0 to quit: 2
    Cell 2 is in row 1 and is in column 2
Please enter a cell number (from 1 to 100), 0 to quit: 10
    Cell 10 is in row 1 and is in column 10
Please enter a cell number (from 1 to 100), 0 to quit: 12
    Cell 12 is in row 2 and is in column 2
Please enter a cell number (from 1 to 100), 0 to quit: 99
    Cell 99 is in row 10 and is in column 9
Please enter a cell number (from 1 to 100), 0 to quit: 100
    Cell 100 is in row 10 and is in column 10
Please enter a cell number (from 1 to 100), 0 to quit: 48
    Cell 48 is in row 5 and is in column 8
Please enter a cell number (from 1 to 100), 0 to quit: 0
Goodbye
```

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<sup>1</sup>It's in row 5, column 8.