

# Northern Michigan University (Marquette Co, MI)

## CS 345-01-26W: Android Programming

### Program 1

Due: Wednesday 28 January 2026 1:00 P.M. EST

#### Three-Dimensional Word Search

Create a folder called “PG1” in the top level of your CS345-01-26W folder. Place all files pertaining to this assignment into the top level of your PG1 folder. Place a (possibly empty) file called “DONE” into this folder when you are ready to have your programs graded. The only files you need to turn in are the .kt files. Please don't turn in any files other than these!!

Write the following program in Kotlin:

The program asks the user for a number of rows. (Call it *r*.) Then the program asks the user for a number of columns. (Call it *c*.) Then the program asks the user for a number of levels. The program should then read in a three dimensional-grid of *l* levels, one level at a time: *r* lines of text, each containing exactly *c* columns. These lines will be stored in 3-dimensional array of character, *l* x *r* x *c*.

You should then ask the user to enter a string.

You should then print out the number of times the string appears in the grid, horizontally, vertically, diagonally in the grid. In three dimensions, a word can extend in any of twenty-six directions from the starting letter..

For example,

```
Please enter the number of rows: 3
Please enter the number of columns: 4
Please enter the number of levels: 2
```

LEVEL 1

```
Row 1: ABCD
Row 2: EABB
Row 3: BBAC
```

LEVEL 2

```
Row 1: ABCD
Row 2: BCDA
```

Row 3: **CDAB**

Enter search string: **ABC**

ABC appears 3 times(s) in the grid.