



Lab 1 – 2D Array

The coded solution to the following problem is to be done by you and only you. You may ask for help only from the professor and the tutors, and no one else. You may use your texts, notes, online tutorials, etc., but the code must be your own. Bear in mind that the professor and tutor are helping you with your C++ problem and not writing your program! If you have trouble compiling or debugging your code, see the professor or tutors as soon as possible. If none of us are available, you may email your question to your professor directly.

Problem Statement:

Write two functions to read and report on a 2D array of programming language “rankings.”

- Use files contained in lab1.zip as the basis for your program.
- Unzip lab1, add the files to a new project, and make sure the program runs properly.
- Enhance the program by implementing the functions prototyped in the functions.h file (loadLanguages is already done for you):

```
//load language names from a file into the names array - return number of languages read
int loadLanguages( const string& filename, string names[], int maxLanguages );

//load language info from a file into a 2d array of ints, return true if successfully processed
bool loadInfo( const string& filename, int infoArray[][INFO], int numLanguages );

//formats and returns a string which contains the language name and the info for
//a particular language (indicated by languageRank)
string formatReportLine( int languageRank, int infoArray[][INFO], string names[] );
```

- You only need to edit functions.cpp.
- You can modify the main function as needed to use the functions in functions.h/.cpp (not necessary).
- Verify that the report (output) is correct and matches the data files.
- **DO NOT** modify the prototypes in functions.h – you can create additional functions but should not need to.

Additional Requirements:


- Follow the coding standard!
- All code must be submitted through Canvas before the start of the first class in Week 2.
- All work must be your own. Others may help in identifying bugs and compile errors but not in writing the code.
- Include all necessary files in a .zip file (include any data files) and submit via Canvas.
- You will receive 0 points if your code does not compile and link.

Grading:

- Code functions properly without modifying any of the prototypes contained in functions.h = full credit

Sample output:

```
[15][3][13]
```

 C:\Users\mgungor\Desktop\Codes\CSI-240\Struct\Debug\Struct.exe

Name:	Rank:	Year Released:
Assembly	1	1949
C	2	1972
C++	3	1983
COBOL	4	1959
Perl	5	1987
Python	6	1991
PHP	7	1995
Visual Basic	8	1991
Fortran	9	1957
ADA	10	1980
Java	11	1995

These are programming languages listed by date and "quality rank".
If you do not agree, consult XKCD. Press any key to continue . . .