CSC 306 FORTRAN
Installation and setup of the gfortran compiler

gfortran compiler:

gfortran is part of the GNU compiler collection. The GNU compilers are included with Linux, providing you install them. If you need the GNU compilers and are using Windows MinGW is a package that provides the GNU compilers which build native Windows executables.

Download MinGW www.mingw.org.

mingw-get-setup.exe, on the MinGW - Minimalist GNU for Windows download page, is a complete GUI windows installer for MinGW.

MinGW which is Linux does not respond well to spaces in path names. Install MinGW in a path without spaces, The safest location is MinGW directally under the root i.e.
C:\MinGW.

Once installed you need to add the path for the compilers and make file to the PATH variable of the system. Edit the System Environment Variables under System Properties and add the appropriate paths to your user PATH. To the current PATH statement separate additional paths with a semi-colon, ;, then add the path,
i.e. C:\Program Files (x86)\clisp-2.49;C:\MinGW\bin;...

The compilers are located in the bin directory of MinGW.

editor for source files:

You need to use an editor that will save an ASCII text file without adding margins to the document. Original FORTRAN is column specific and can not have right margins added to your file.

Notepad and Edit are good editors. If you use a wordprocessor like Word, make sure you save the file as an ASCII text file and do not use any margins.

Crimson Editor is a good freeware text editor for source files. http://www.crimsoneditor.com/

test gfortran installation:

create the file
Test the installation by entering, compiling, and executing the following FORTRAN program.

Using a ASCII text editor enter the following four lines. The three lines of code MUST begin in or after column seven.
* gfortran Test Program
PROGRAM MAIN

PRINT *,'Your gfortran installation is successful.'
END PROGRAM MAIN

Save the file as testfile.f in the directory you wish to work in.

open a command prompt session

Open a Command Prompt session and navigate to the working directory you saved your
FORTRAN file in using the change directory, **cd** command,
i.e. cd c:\users\your_account_name\documents or where ever you wish to work.

You can make a command prompt shortcut and set the Start in: path to your working directory.

Confirm the FORTRAN test file you entered is in this directory with the directory command,
dir,
i.e. dir

You should see your testfile.f file.

It is suggested that you shut off the"Hide extensions for known file types" in the **view** settings of
the **Folder Options** so that your .c, .txt, etc. extensions can be visible.

compile the FORTRAN program

Compile the program by typing **gfortran myfile.f** for the command line.

When successful you will have an **a.exe** file in the directory which is the executable file of your
program.

If you wish to specify a file name for the output file, add the **-o** option to the compile line by
typing **gfortran myfile.f -o program.exe** for the command line.

Your executable file will now be **program.exe**.

run your program

Type **a** or **program** if you renamed the program at the command line to run your FORTRAN
program.

You should see **Your gfortran installation is successful.** displayed from your program.

gfortran extensions:

        if the file is named code.f gfortran supposes it is fixed-form source, with no
preprocessing needed.

if the file is named code.f90 gfortran supposes it is free-form source, with no preprocessing needed.

if the file is named code.F gfortran supposes it is fixed-form source and performs preprocessing.

if the file is named code.F90 gfortran supposes it is free-form source and performs preprocessing.

There are other extensions recognized, such as: .f95 is the same as .f90 and .F95 is the same as .F90