How to set up and use the G95 FORTRAN compiler for Windows/2000/XP/VISTA

I. Setup

First .. make a directory on the desktop called "**g95**"

Go to … **http://www.g95.org** **…** click on

> "**Downloads**
> → **Binaries**"

in left frame. Scroll down to ….

g95-MinGW.exe

- *Currently the most popular version of g95!*
- *Self-extracting installer*
- *Works on Windows Vista/XP/2000/ME/98/95*
- *Recommended version for new users*
- *Use a CMD or DOS window, g95 is a command-line compiler*
- *Sets the LIBRARY_PATH environment variable*
- *Built against gcc-4.0.3*
- *Installs all files needed to compile programs for Windows*
- *Optionally installs g95 in an existing MinGW/Msys filesystem*
- *MinGW/Msys offer unix-style tools such as make, gdb*
- *MinGW provides gcc*
- *Download from: http://ftp.g95.org/g95-MinGW.exe*

Download the executable by clicking on the link

Save the executable to your desktop … **g95-MinGW.exe**

Run the .exe file .. you will get the window

Click **"yes"**

.. you will get the window …
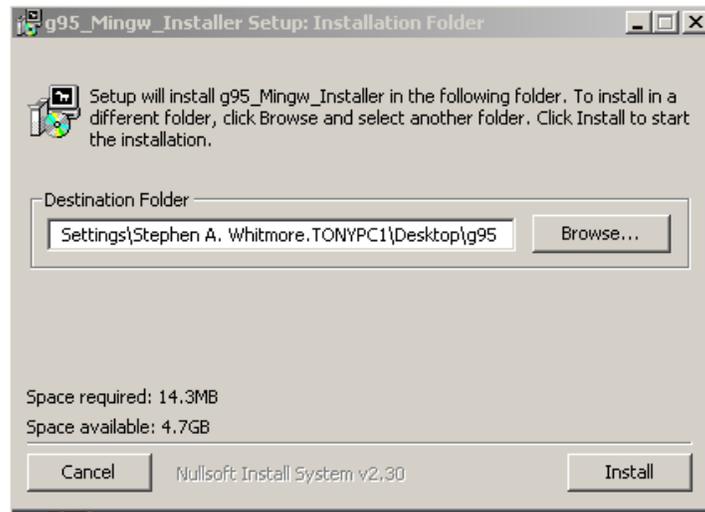
hit "**Browse…**" and select the "**g95**" directory you selected on the desktop, then click
"**Install**"

... you will get the window …

… click "**OK**"

… next you will get the window …

... very important .. this sets the VIRIABLE and Library paths for g95 .. make sure this
points to "**g95\lib**" .. then clock "**OK**".

Next you will get the window …
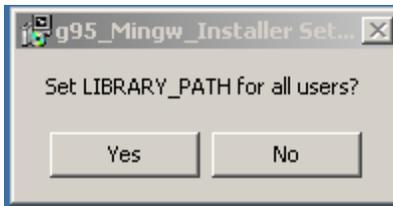
... if you use multiple accounts , i.e., Admin, and users .. click "**Yes**" … if not sure … click "**Yes**" anyway.

Next you will get the window

... click "**OK**" .. and carefully read the opened text file. Save this file in your "**g95**" directory. DO NOT reset the path variable .. the installer has already done that.! Close the file.

Finally you will get the window.

.
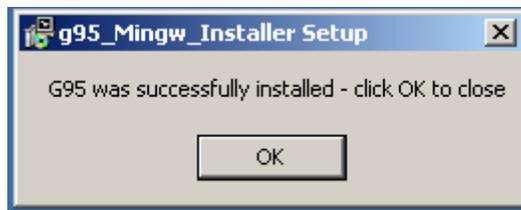
.. click "**OK**". Then close the "**G-95 crunch time**" window.

… by clicking "**Close**".

II. Verifying the Build

First Open the desktop folder … **"g95".** You should see the following files,

The folder "**bin**" contains the path information and the compiler executable.

Compiler executable

Do not try and run the compiler from windows. It will NOT work. It has to be run from the DOS command line. More on this later.

The folder "doc" contains documentation and reference materials.

License rights   *On line manual*   *pdf manual*

The folder "*lib*" contains the dynamic link libraries needed to run the compiler. The folder should have the following files:
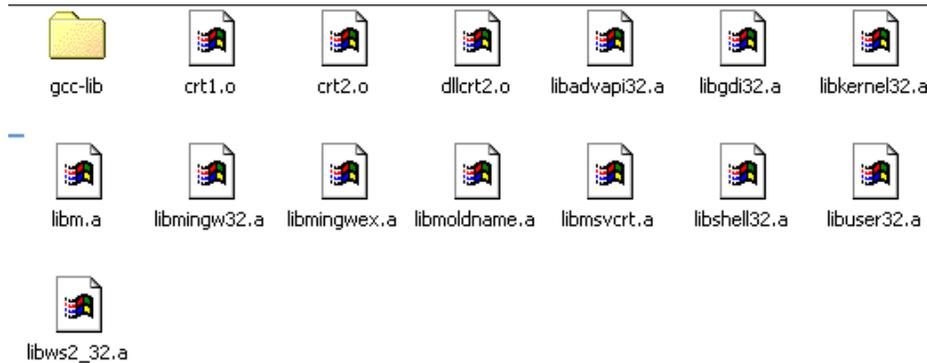
III. Using the DOS Command Line Window

The compiler is run via the DOC command line. To get to the command line, point to the "**Start**" menu.
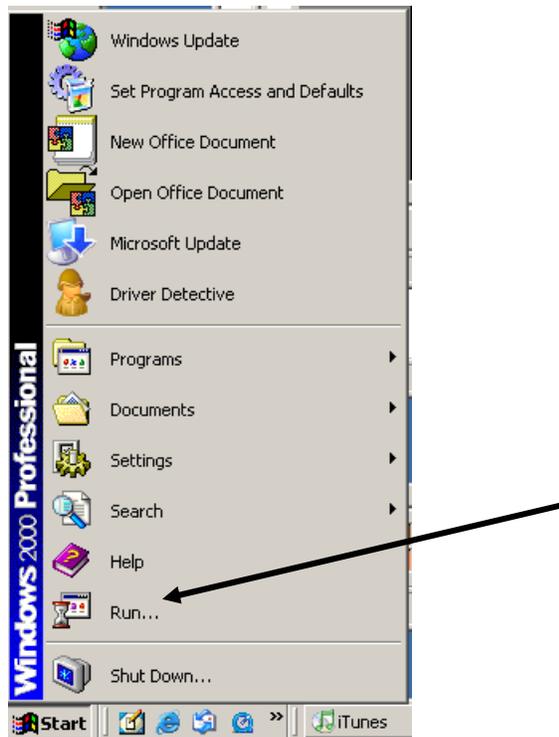
Obviously, this build was done in Windows 2000, but "XP" and "Vista" have a similar path sequence. Click on "*Run*". You will get the window
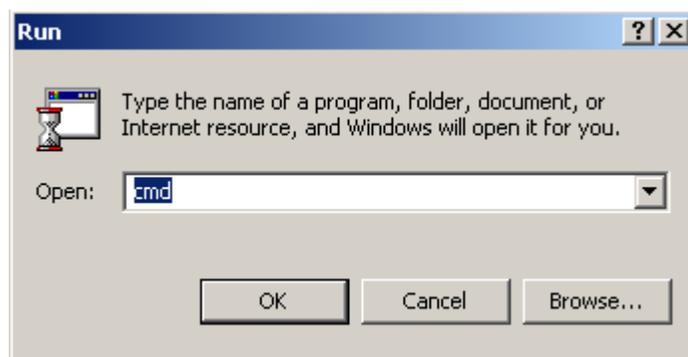
Click .. "**OK**". The "Disk Operating System" *DOS* window will come up.
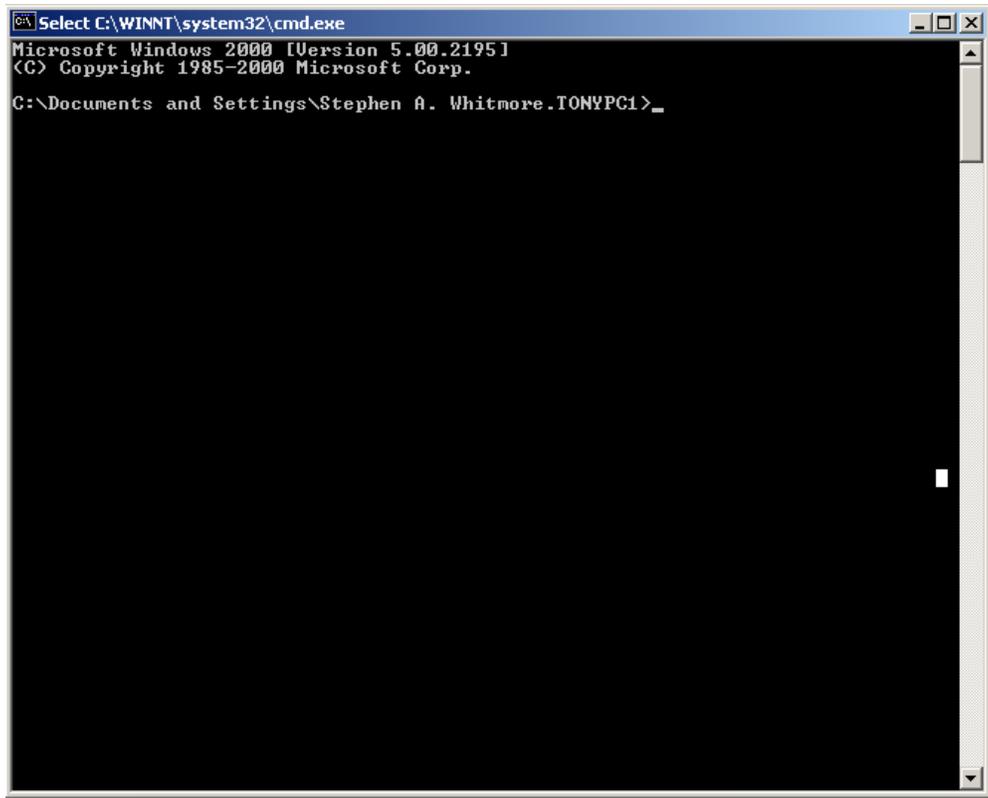
Move to the g95 directory ….

C:\Documents and Settings\Stephen A. Whitmore.TONYPC1>*cd Desktop\g95*

what you type on command line.

Look for files in this directory.

C:\Documents and Settings\Stephen A. Whitmore.TONYPC1\Desktop\g95>*dir*

These files will match the files that the GUI shows in the g95 directory.

Once you are in the DOS command line window … you can use the "cut" and "paste" functions to keep from having to re-type commands over and over again. … First use the "left-Mouse" button to click the "*box*" in the upper left corner of the DIS window. Drag to "Edit/Mark"
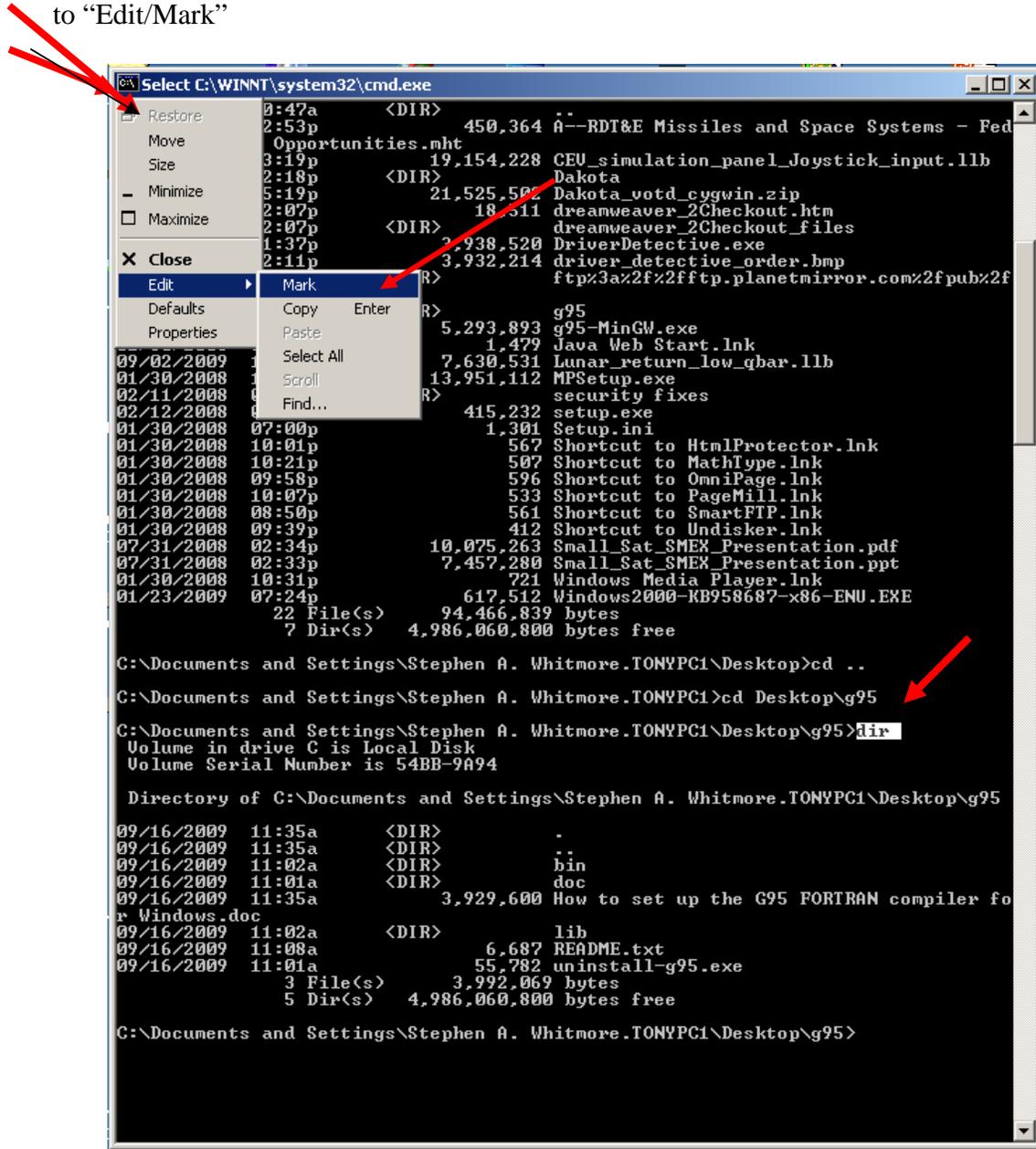
Use the left mouse to highlight the desired text … Then click the "*box*" in the upper left corner of the DIS window. Drag to "Edit/Copy". This action copies the selected text to the command line scratch buffer.

Finally, you can paste this value into the command line.

Once you have typed a command in DOS, then it is saved in a circular buffer and can be retrieved using the "**up arrow**". Very use ful if you have to re-use a command over and over again. Saves a lot of typing.

III. Using the G-95 Compiler.

The easiest way to get started is to use a simple text editor to write your code to a single simple text file. You can build multiple files and link them with the compiler .. but let's start here first. First make a filder called "**myProgram**" in the "g95" folder. You can use windows create this folder .. or inside of the "**g95**" directory, you can use the DOS command (*a folder in windows is a directory inDOS*)

… < *mkdir myProgram* >.

Move to this directory in DOS …

… < *cd myProgram* >

Copy the simple program below and paste into a simple word processing application .. like "*notepad*" . Save the file in the myProgram folder . Save as simple text with the name … "**test.f**" .. be sure to save as a text file with ANSI encoding.

```
                   Program test
c
c    ..... this is a sample FORTRAN program
c
c   ... this program reads in two numbers from the command window
c        ($STDIN, unit 5),
c   ... adds their values, and writes the original numbers and the sum
c        back to the ... command window ($STDOUT, unit 6). IT also
c       writes those values to separate
C     file ... called ...   "tempfile.txt"
c
c      this call gets rid of any implicit declarations
               implicit none
c
c              declare variables
               real*8   x1, x2, sum
               CHARACTER*1 A, B
c
c ************************  executable code
************************
                 A = 'A'
                 B = 'B'
c          open "harcopy" output file
               open(UNIT=1,FILE='tempfile.txt',FORM='FORMATTED')
c
c    read in data
               print*, 'enter the two numbers, x1, x2'
               read(5,*) x1, x2
c
c    add numbers
             sum = x1 + x2
c
c              write the screen
                     print*, 'x1=', x1, ' x2=', x2, ' sum', sum
```

```
c
c                  write to tempfile
                         write(1,*) 'x1=', x1, ' x2=', x2, ' sum=', sum
c
c            close "hardcopy" files
                       close(unit=1)
c
                   stop
                   end
```

In DOS (make sure you are in the "**Desktop\g95\myProgram**" directory … type < *dir* >.
The command line screen should look like …

```
 Directory of C:\Documents and Settings\Stephen A. Whitmore.TONYPC1\Desktop\g95\
myProgram

09/16/2009  12:51p       <DIR>          .
09/16/2009  12:51p       <DIR>          ..
09/16/2009  12:51p                    2,698 test.f.txt
              1 File(s)          2,698 bytes
              2 Dir(s)   4,912,832,512 bytes free

C:\Documents and Settings\Stephen A. Whitmore.TONYPC1\Desktop\g95\myProgram>
```

You need to copy "**test.f.txt**" to "**test.f**" in the command line … this gets rid of the ".txt"
appendage.

> *< copy test.f.txt test.f >*

```
C:\Documents and Settings\Stephen A. Whitmore.TONYPC1\Desktop\g95\myProgram>copy
 test.f.txt test.f
          1 file(s) copied.
```

Once you have done this copy over once, then from then on by clicking on the test.f file
in windows, it should automatically open in either "notepad" or "wordpad". You can edit
the file and then simply "*save*" after edits. If you save to another name .. then you will
have to go back inot DOS and copy if over to get rid of the ".txt" appendage. *THIS IS A*
CRUEL QUIRK OF WINDOWS.

Now you are ready to compile the file

> *< g95   test.f   -o   test >* ….

Compiler call   program   get rid of object files   executable code
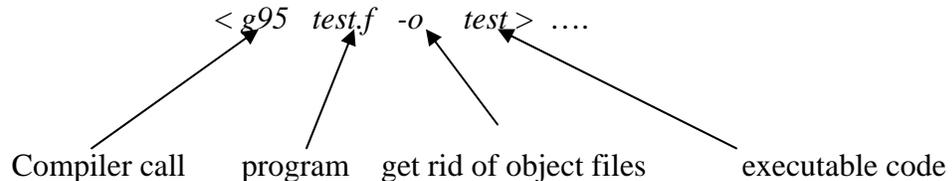
There should be no compile errors. Then you can run the binary as

…   *< test >*

11

the DOS command line will prompt you for the data .. enter the data .. delimited by a space or comma and hit *< return >*. The result is your first run program. The output "hardcopy" file will be written to the folder "myProgram".

```
C:\Documents and Settings\Stephen A. Whitmore.TONYPC1\Desktop\g95\myProgram>g9
test.f -o test

C:\Documents and Settings\Stephen A. Whitmore.TONYPC1\Desktop\g95\myProgram>te

 enter the two numbers, x1, x2
1., 2.
 x1= 1.   x2= 2.   sum 3.

C:\Documents and Settings\Stephen A. Whitmore.TONYPC1\Desktop\g95\myProgram>
C:\Documents and Settings\Stephen A. Whitmore.TONYPC1\Desktop\g95\myProgram>
```

"test.f"   *"test.f.txt".*   *"hardcopy file"*   *"test.exe"*
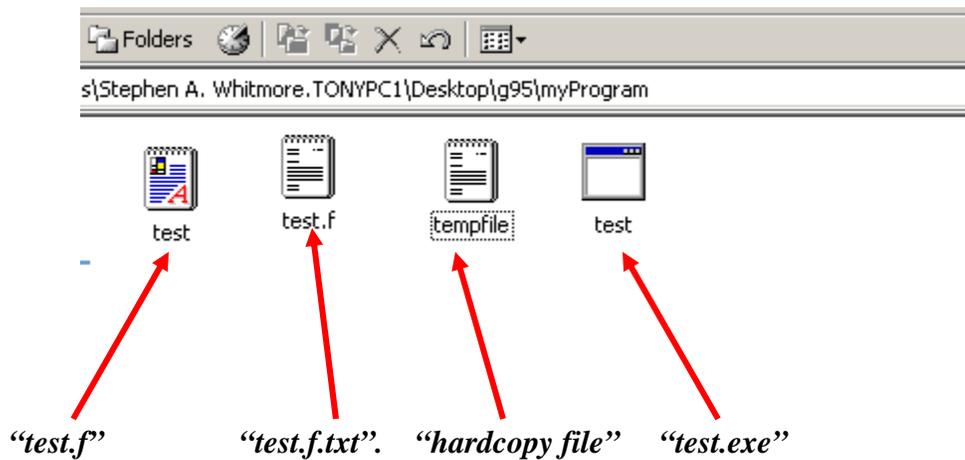
To compile and link more than one file, create the individual files as before, making sure to get rid of the **".txt"** appendage. One file has to have the **"*Main*"** program routine in it. The compile and link as

< g95 main.f file1.f file2.f .... –o main > The executable file will be named *" main.exe"*

You can leave the DOS window by typing *"exit"*.