

General

This folder is designed to set up watcom, the command window and the watcom ide. The hello code is introduced in FORTRAN, then in C.

Watcom

Watcom is free and available from

<http://www.openwatcom.org>

Version 1.3 includes both C and FORTRAN. The most recent version 1.9 has a separate download for C and for FORTRAN. Install complete versions of both. The codes here are mostly FORTRAN, with frequent C and C++ versions. Openwatcom allows the same IDE to make executables for all three and for relatively easy mixing of the codes.

Command Line

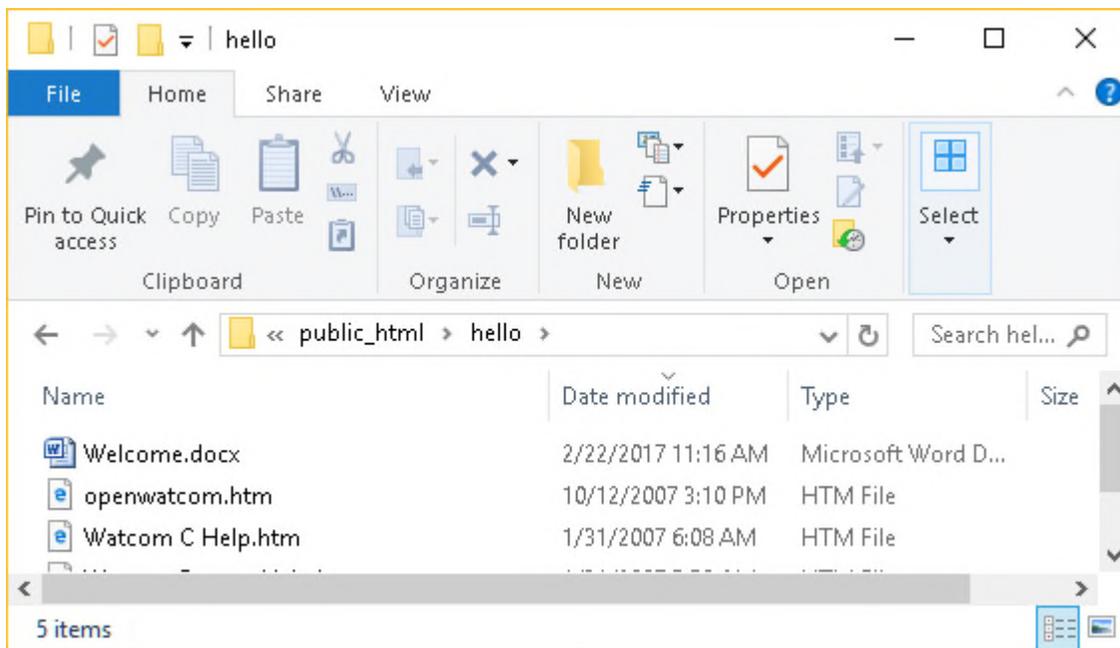


Figure 1 Screen dump of this folder in Windows 10

If you are running windows 10, the command prompt is available by right clicking of the dark blue file. If you have an older operating system, go to start, at the bottom find all programs, go to accessories and copy command prompt. Paste it into this folder. Right click on it and open properties. Remove the line with %HOMEDRIVE%\HOMEPATH%, click on apply. Now when you click on it, it will open in this folder.

Watcom ide

Installation of Watcom puts \watcom\binnt in the path. This means that in command mode, the command ide opens a window



Go to file and request a new project.

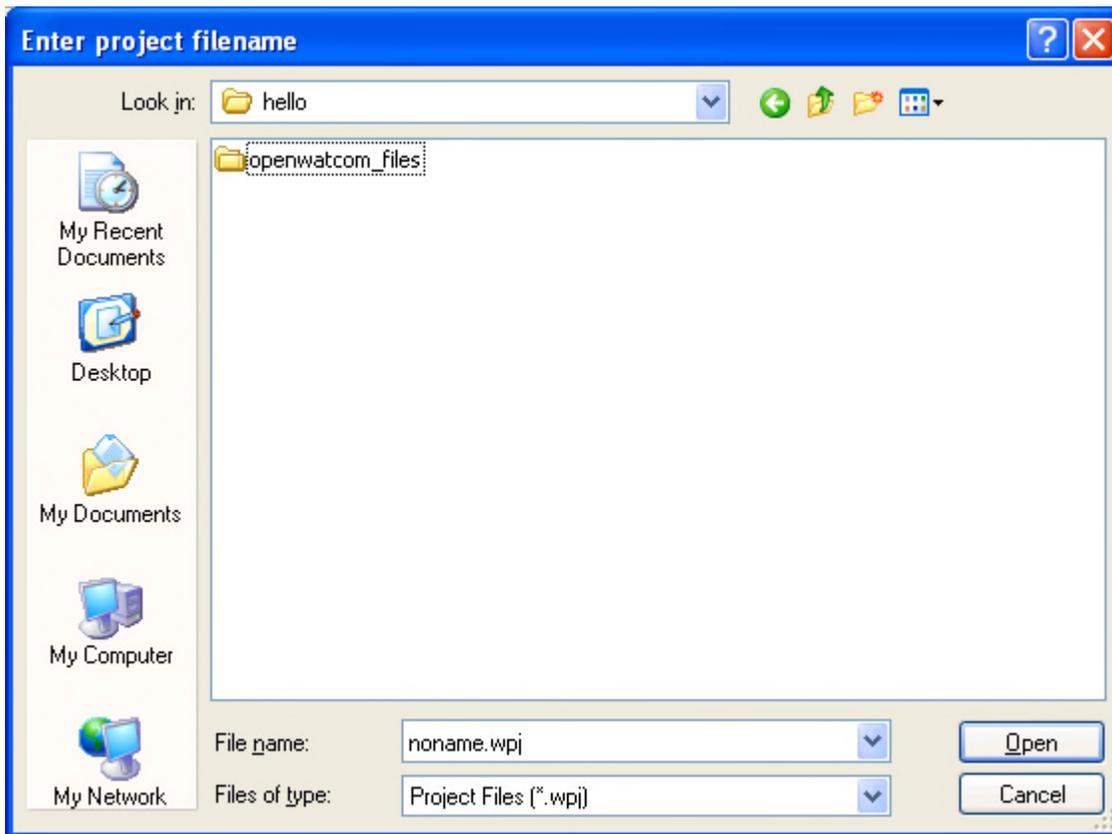


Figure 2 The new project window

The up arrow and the selection of location enables the code to reach the hello folder. Change the name noname.wpj to helloF.wpj

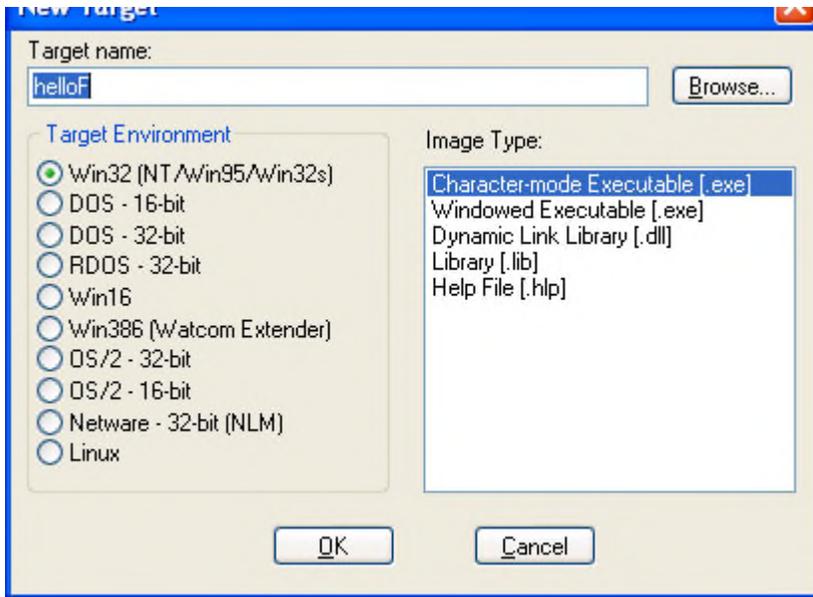


Figure 3 Project options

Accept the defaults. Click on sources in the version of figure 1 that appears next. On the add line type in hellof.for and click add, then close.

FORTRAN

Figure 1 now has [.for] at the top of what was blank space, followed by hellof.for [n/a]. It is the for that lets the ide know that this is a FORTRAN code. Do not let the [n/a] bother you. Click on hellof.for and enter the code.

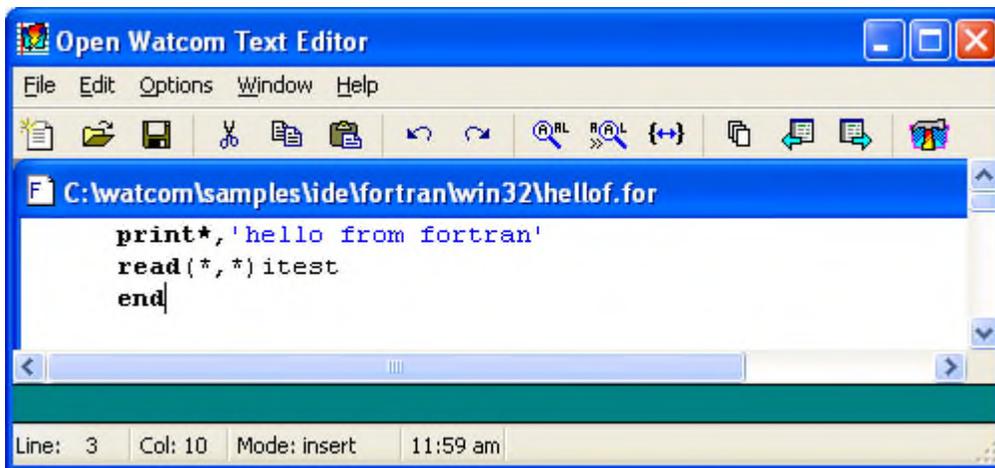


Figure 4 The hello code in FORTRAN.

The first line says hello, the second keeps the run window open so that we can see the result of the first line. The rather obsolete diskette saves the code. The hammer brings the ide to the top. The [n/a] is

gone. The fifth symbol across the top of figure 1, compiles the source code. The sixth compiles and links all source code. First click on options, then FORTRAN options.

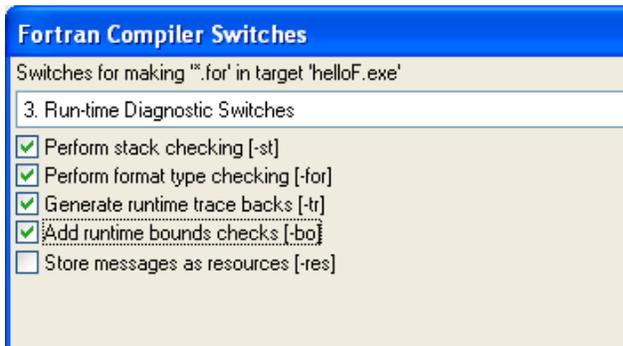


Figure 5 diagnostic switches

The four switches checked were defaulted to off. For debugged code, off is correct.

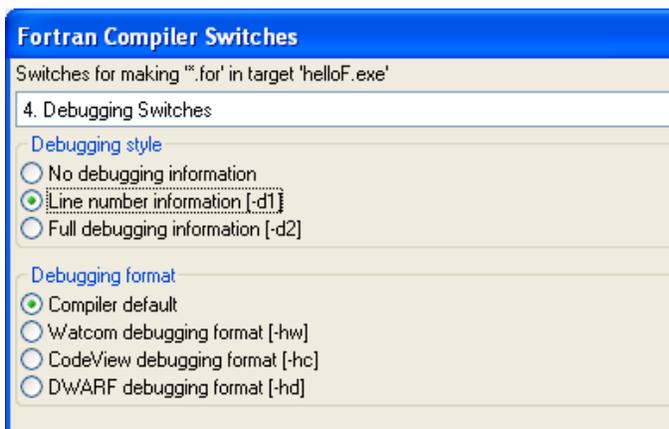


Figure 6 debugging changed from full to line number information.

The use of line number information and the previous debug switches slows the code by more than a factor of 10. Optimization options are on the next few pages. Optimize for speed.

Save these changes, click on the sixth compile and link page to bring up the ide log.

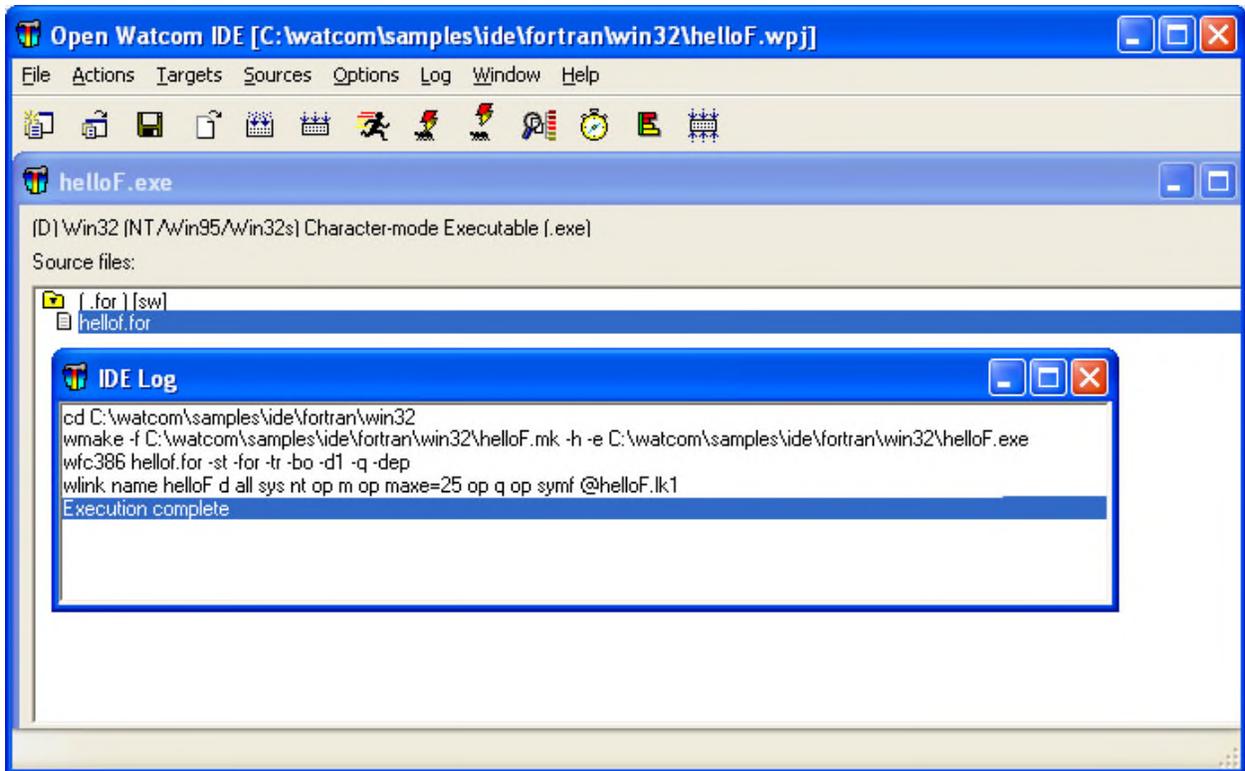


Figure 7 the ide log.

Read the log carefully. This is the best place to catch errors. Click on the running figure.



Figure 8 dos from the ide

Unfortunately, the run time errors do not get to this window. It just closes. Go back to command mode.

```
>hellof
Hello from fortran
1
```

In this mode, the errors will show up including the line on which they occurred. The option choices indicate that debugging information has been suppressed. The suppressed information is not normally needed.

C



Figure 9 The IDE with a C source indicated.

Name.c tells the ide that this is C code.

```
#include <stdio.h>
```

```
#include <conio.h> ← not really necessary, apparently getch is also in stdio
```

```
int getch( void ); ← header not necessary, helps in debugging
```

```
void main(void)
```

```
{char c1 ; ← { starts the body of the code
```

```
printf("Hello from C\n");
```

```
c1=getch(); ← of the many gets, this one waits for the next keyboard entry.
```

```
    This input keeps the window open.
```

```
printf("c1 = %c \n",c1); ← %c makes the output character
```

`c1=getch();} ← }` ends the code section.

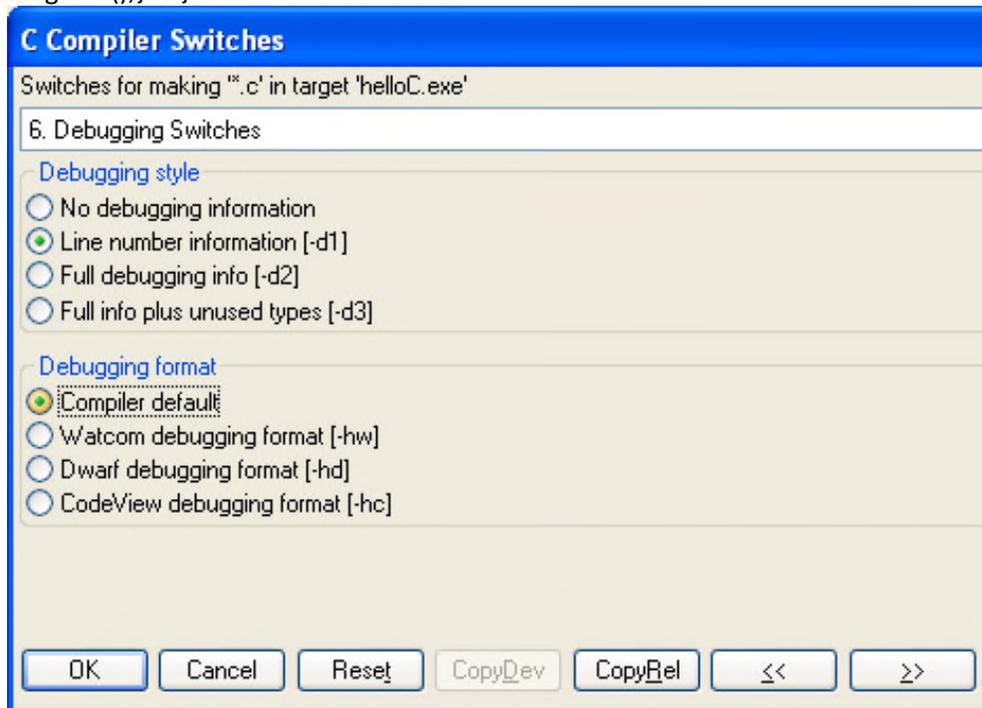


Figure 10 the preferred options.

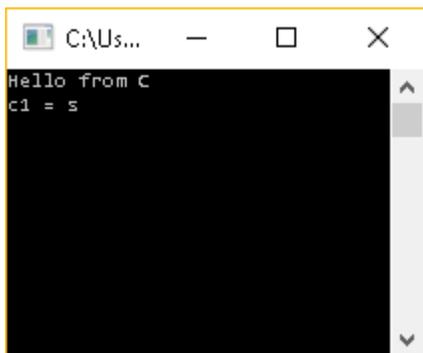


Figure 11 The run window.

<Ctl>m brings up a cursor that can be used to copy part of this to the clipboard. Click on the upper left icon to bring up many more options.