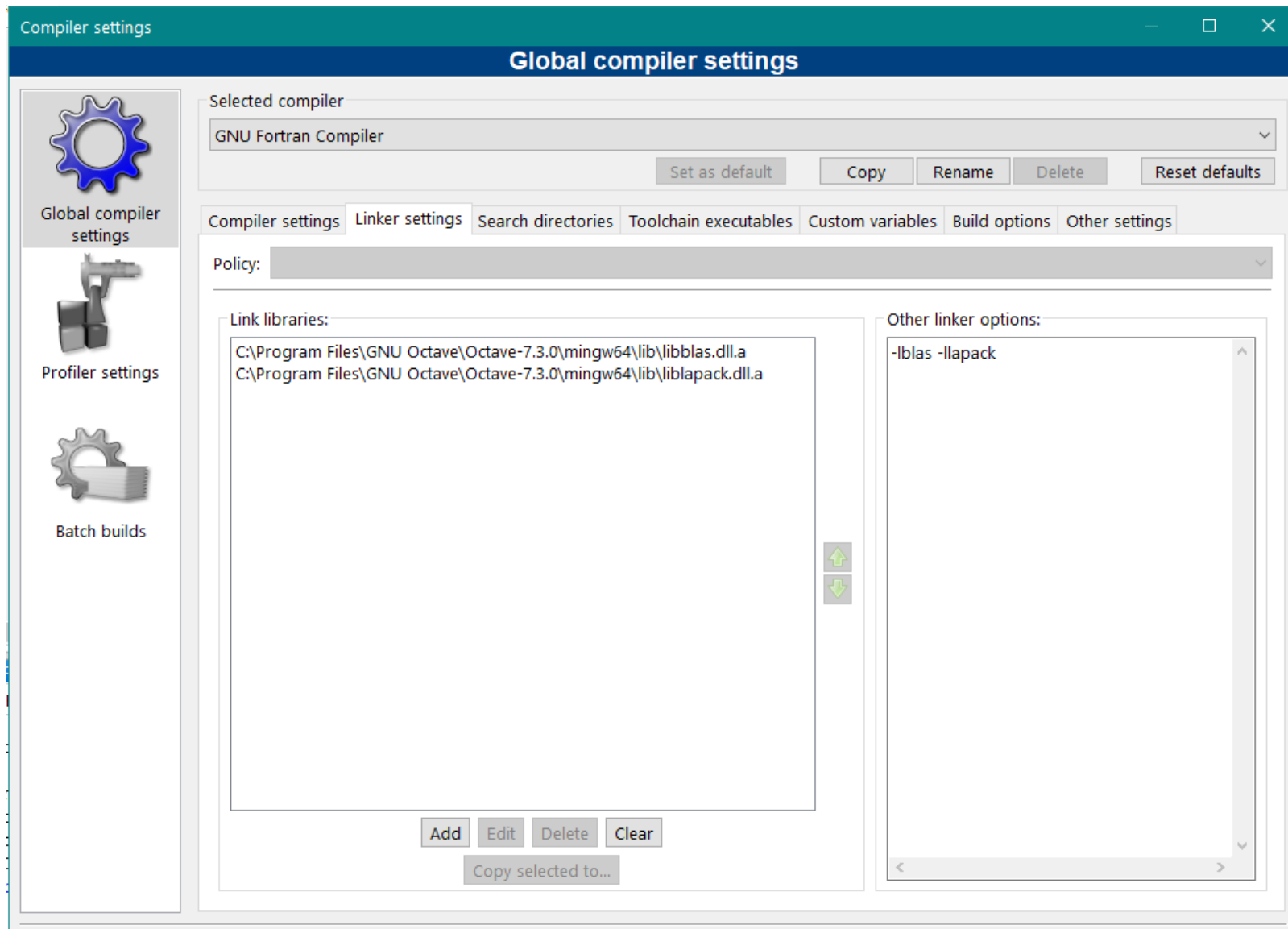
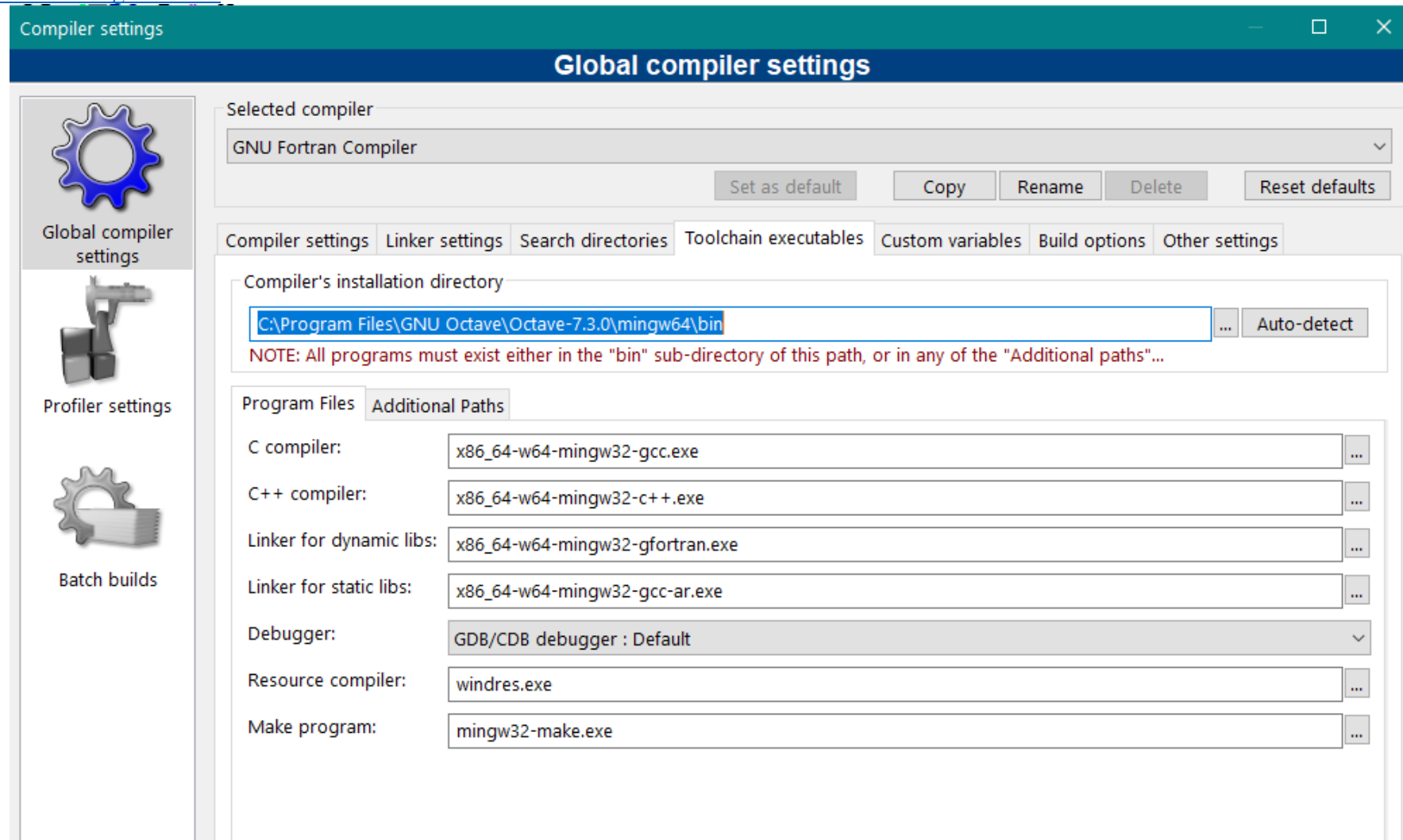


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Jrsystem.slovakia@gmail.com. 26.02.2023
Setting up compiler, linker, and dynamically linked libraries libblas.dll.a , liblapack.dll.a. 64bit for GNU Fortran in CodeBlocks . Using installed GNU Octave 7.3.0 x64





Locations of some applications:

C:\Program Files\GNU Octave\Octave-7.3.0\mingw64\bin\windres.exe

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C:\Program Files\gcc-win64\bin\ windres.exe

C:\msys64\mingw64\bin\mingw32-make.exe

C:\msys64\mingw64\bin\ mingw32-make.exe

Sample code from book : Computational Physics. Walker, Darren J.. (2016). *Computational Physics - An Introduction*. Mercury Learning and Information. Retrieved from

<https://app.knovel.com/hotlink/toc/id:kpCPAI0001/computational-physics/computational-physics>

CHAPTER 2 – GETTING COMFORTABLE

PiPolygon.f90

PROGRAM PI_POLYGON

IMPLICIT NONE

INTEGER, PARAMETER :: N = 4

INTEGER, PARAMETER :: NRHS = 1

INTEGER I, J

INTEGER INFO, IPIV(N)

DOUBLE PRECISION A(N,N), P

DOUBLE PRECISION B(N)

EXTERNAL DGESV

DO J=1,N

DO I=1,N

P = (I+2)*(J-1)

A(I,J) = 1/(2**P)

END DO

END DO

PRINT *, "Coefficient matrix A:"

DO I=1,N

WRITE(*,100) A(I,1), A(I,2), A(I,3), A(I,4)

100 FORMAT(4(" ", f10.6))

END DO

B(1) = 3.061467

B(2) = 3.121445

B(3) = 3.136548

B(4) = 3.140331

!

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CALL DGESV(N, NRHS, A, N, IPIV, B, N, INFO)

PRINT *, "Display the solution x"

DO I = 1,N

WRITE(*,101) B(I)

101 FORMAT(1(" ", f10.6))

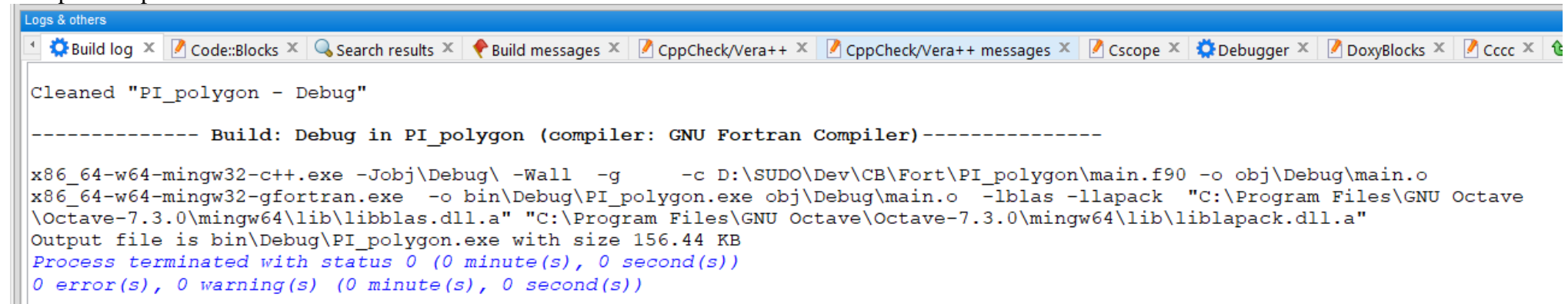
END DO

STOP

END PROGRAM PI_POLYGON

!END OF FILE*****

Compiler output



The screenshot shows a window titled "Logs & others" with several tabs. The active tab is "Build log". The output text is as follows:

```
Cleaned "PI_polygon - Debug"

----- Build: Debug in PI_polygon (compiler: GNU Fortran Compiler)-----

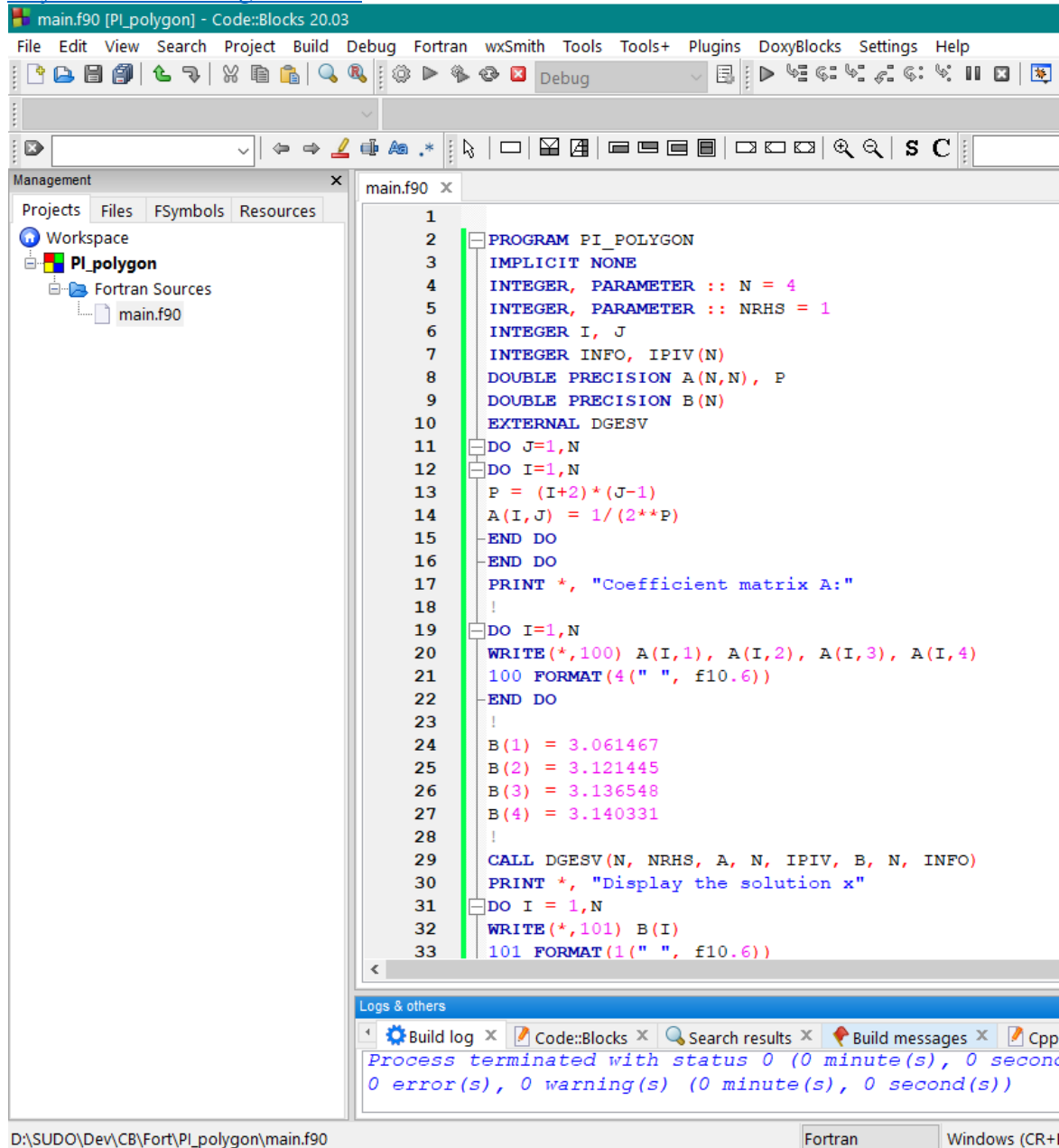
x86_64-w64-mingw32-c++.exe -Jobj\Debug\ -Wall -g -c D:\SUDO\Dev\CB\Fort\PI_polygon\main.f90 -o obj\Debug\main.o
x86_64-w64-mingw32-gfortran.exe -o bin\Debug\PI_polygon.exe obj\Debug\main.o -lblas -llapack "C:\Program Files\GNU Octave\Octave-7.3.0\mingw64\lib\libblas.dll.a" "C:\Program Files\GNU Octave\Octave-7.3.0\mingw64\lib\liblapack.dll.a"
Output file is bin\Debug\PI_polygon.exe with size 156.44 KB
Process terminated with status 0 (0 minute(s), 0 second(s))
0 error(s), 0 warning(s) (0 minute(s), 0 second(s))
```

Program output in cmd in Win10Pro x64, 22H2, installed on 15. 10. 2021, OS build 19045.2673, Windows Feature Experience Pack 120.2212.4190.0, SSD, RAM 6 GB

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Jrsystem.slovakia@gmail.com. 26.02.2023

```
D:\SUDO\Dev\CB\Fort\PI_polygon\bin\Debug\PI_polygon.exe
Coefficient matrix A:
1.000000  0.125000  0.015625  0.001953
1.000000  0.062500  0.003906  0.000244
1.000000  0.031250  0.000977  0.000031
1.000000  0.015625  0.000244  0.000004
Display the solution x
3.141584
0.001086
-5.209635
0.587798

Process returned 0 (0x0)   execution time : 0.079 s
Press any key to continue.
```



```
1
2 PROGRAM PI_POLYGON
3 IMPLICIT NONE
4 INTEGER, PARAMETER :: N = 4
5 INTEGER, PARAMETER :: NRHS = 1
6 INTEGER I, J
7 INTEGER INFO, IPIV(N)
8 DOUBLE PRECISION A(N,N), P
9 DOUBLE PRECISION B(N)
10 EXTERNAL DGESV
11 DO J=1,N
12 DO I=1,N
13 P = (I+2)*(J-1)
14 A(I,J) = 1/(2**P)
15 END DO
16 END DO
17 PRINT *, "Coefficient matrix A:"
18 !
19 DO I=1,N
20 WRITE(*,100) A(I,1), A(I,2), A(I,3), A(I,4)
21 100 FORMAT(4(" ", f10.6))
22 END DO
23 !
24 B(1) = 3.061467
25 B(2) = 3.121445
26 B(3) = 3.136548
27 B(4) = 3.140331
28 !
29 CALL DGESV(N, NRHS, A, N, IPIV, B, N, INFO)
30 PRINT *, "Display the solution x"
31 DO I = 1,N
32 WRITE(*,101) B(I)
33 101 FORMAT(1(" ", f10.6))
```

Logs & others

Build log x Code::Blocks x Search results x Build messages x Cpp

Process terminated with status 0 (0 minute(s), 0 second(s), 0 error(s), 0 warning(s) (0 minute(s), 0 second(s))

D:\SUDO\Dev\CB\Fort\PI_polygon\main.f90 Fortran Windows (CR+H