

# Elemi alkalmazások fejlesztése

## Bevezetés

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# A tantárgy felvétеле

Felvétel előfeltétele: teljesített bev prog

Felvétel módja: jelentkezés programmal a pandorán

-- tanar=stengi - - hirdetes=eafI\*

# Integrált fejlesztőkörnyezet

Linux



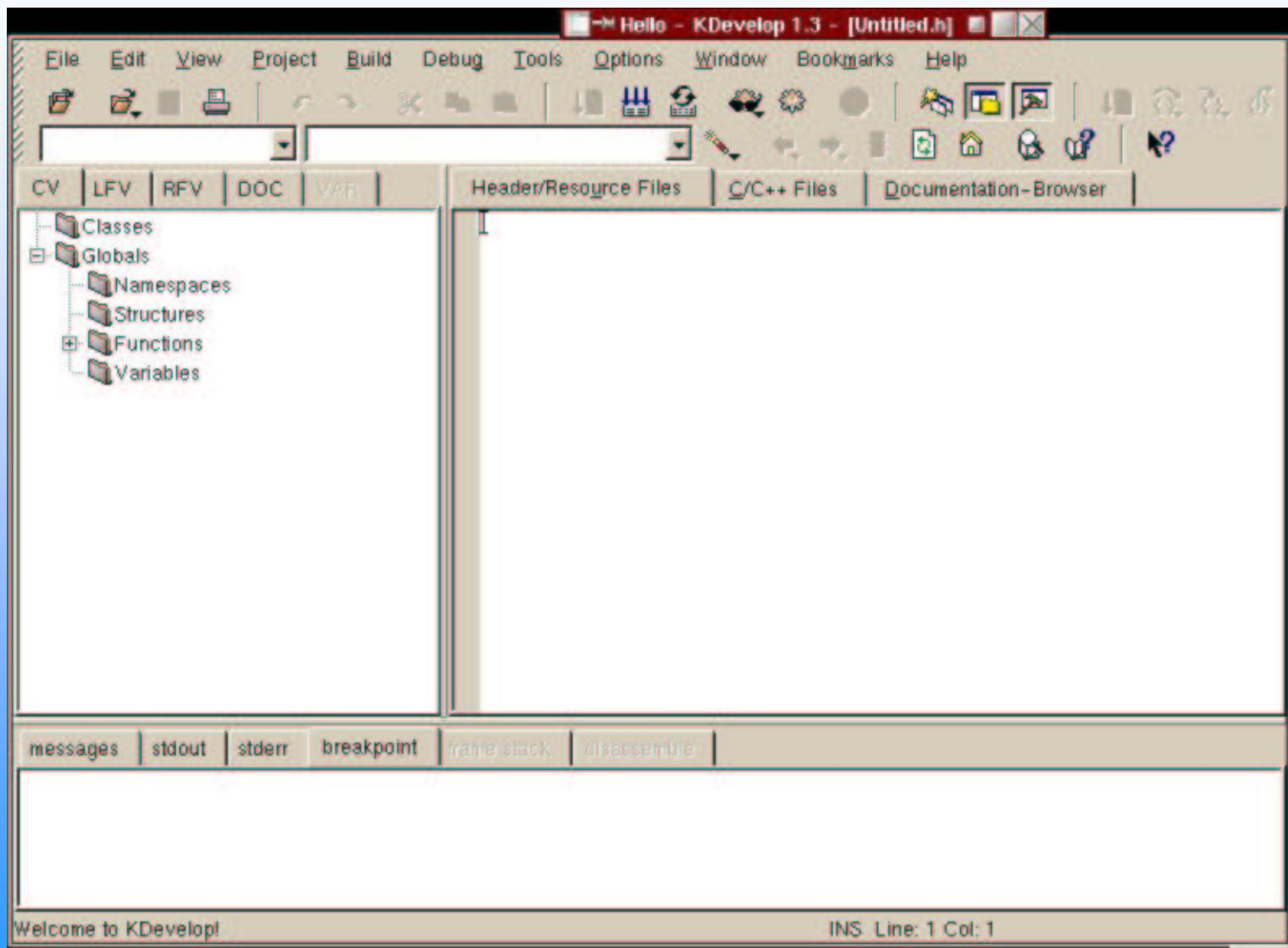
[www.kdevelop.org](http://www.kdevelop.org)

MS Win\*

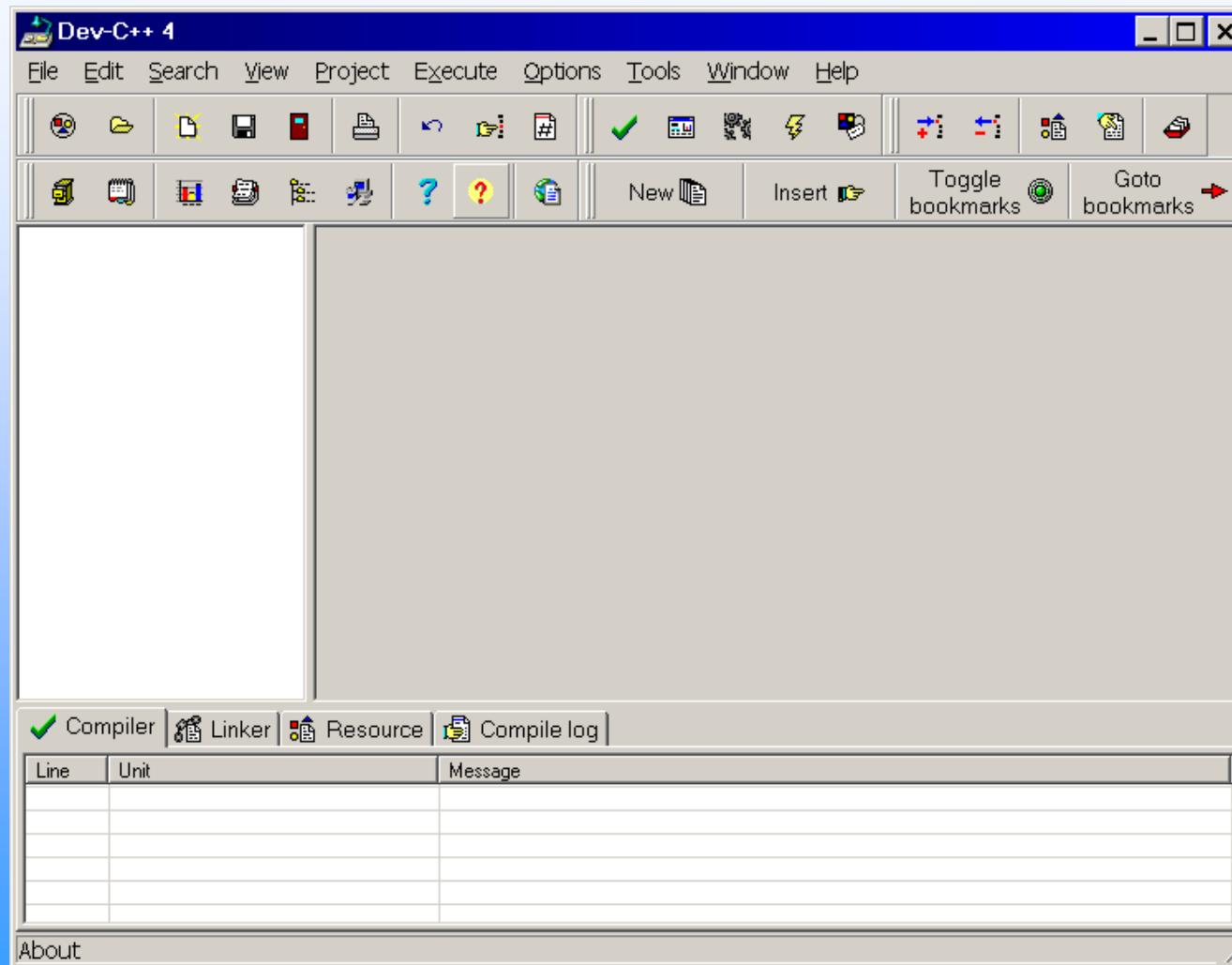
DevC++

[www.bloodshed.net](http://www.bloodshed.net)

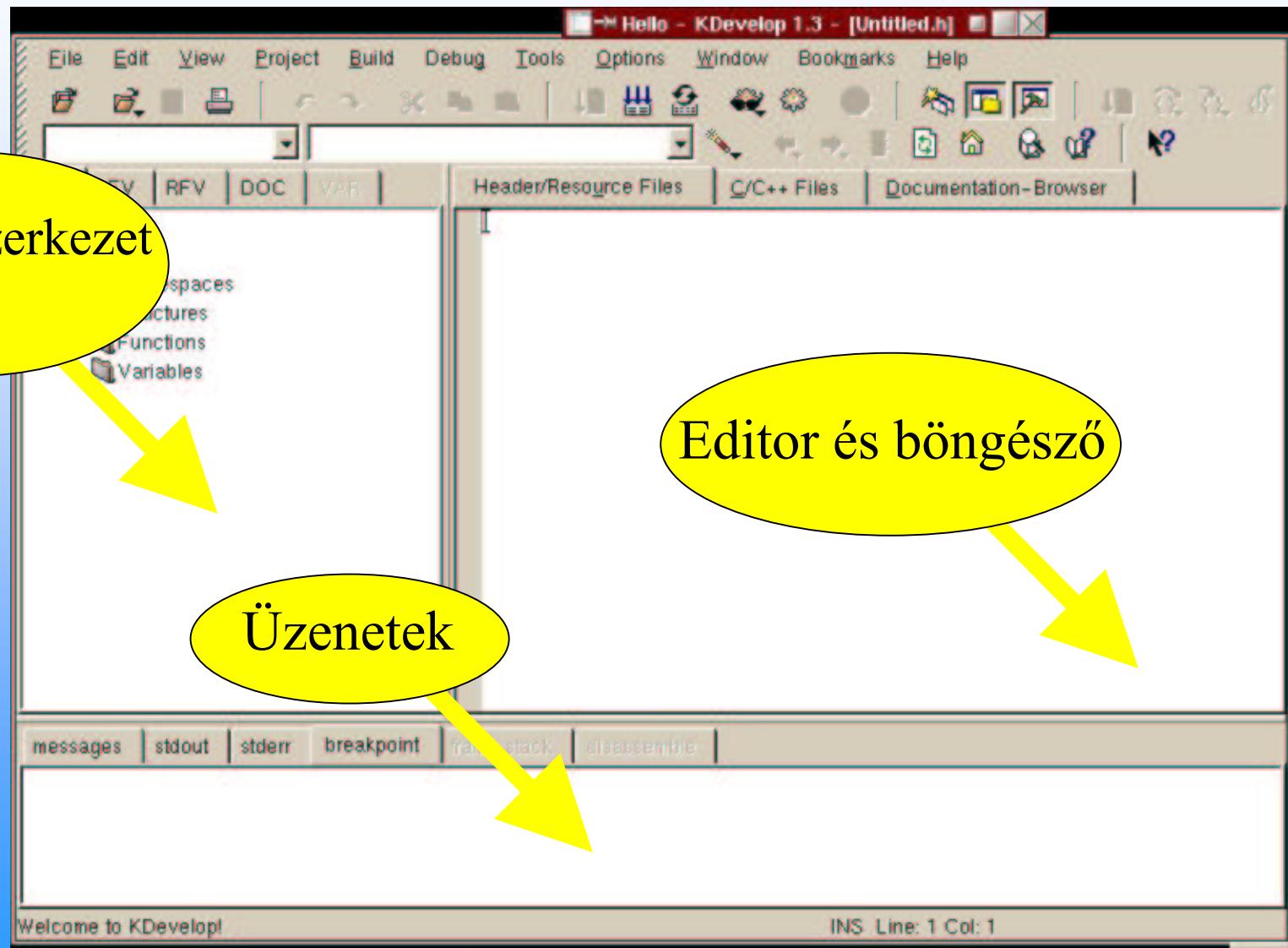
# A kdevelop főablaka



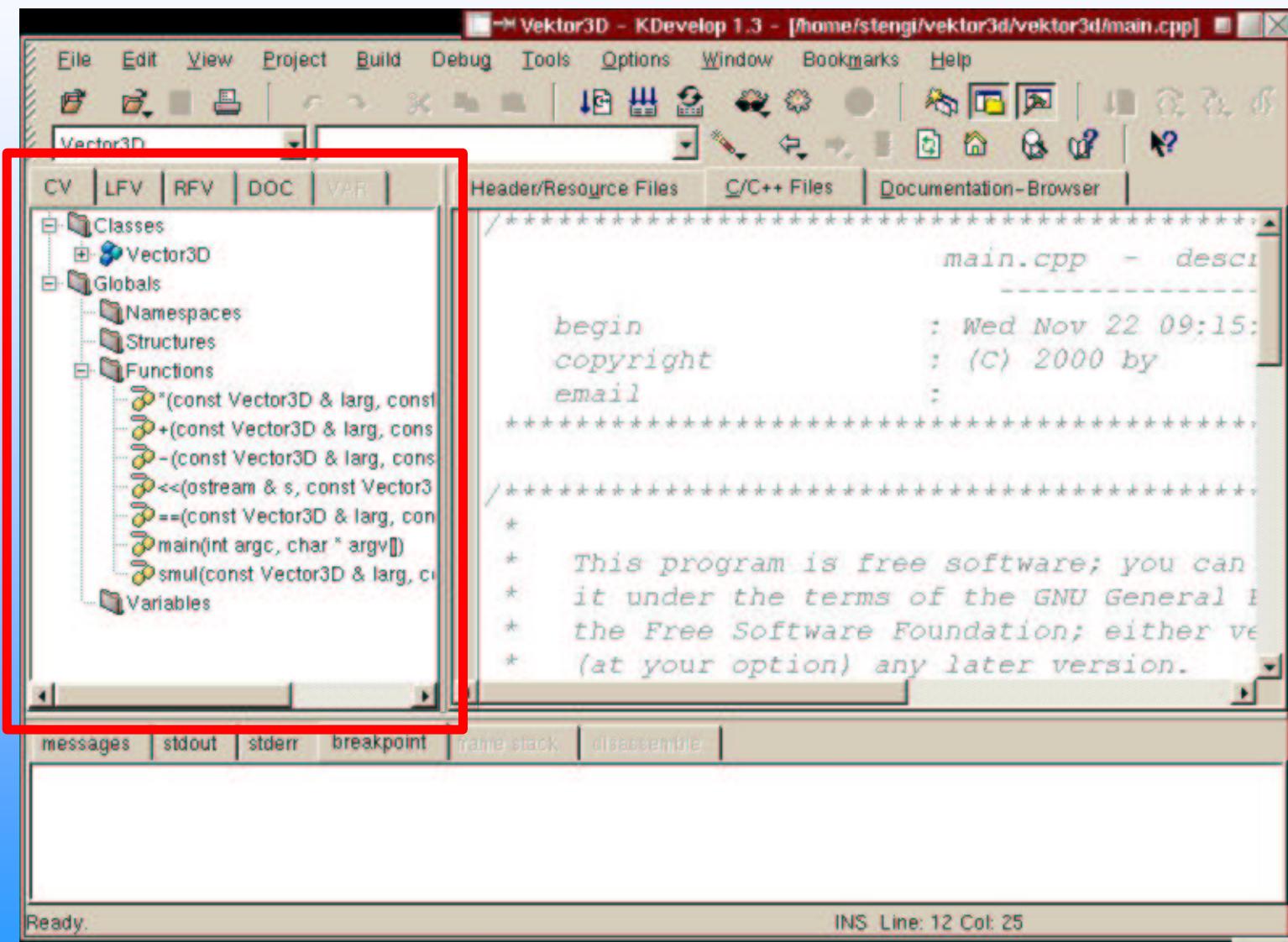
# A DevC++ főablaka



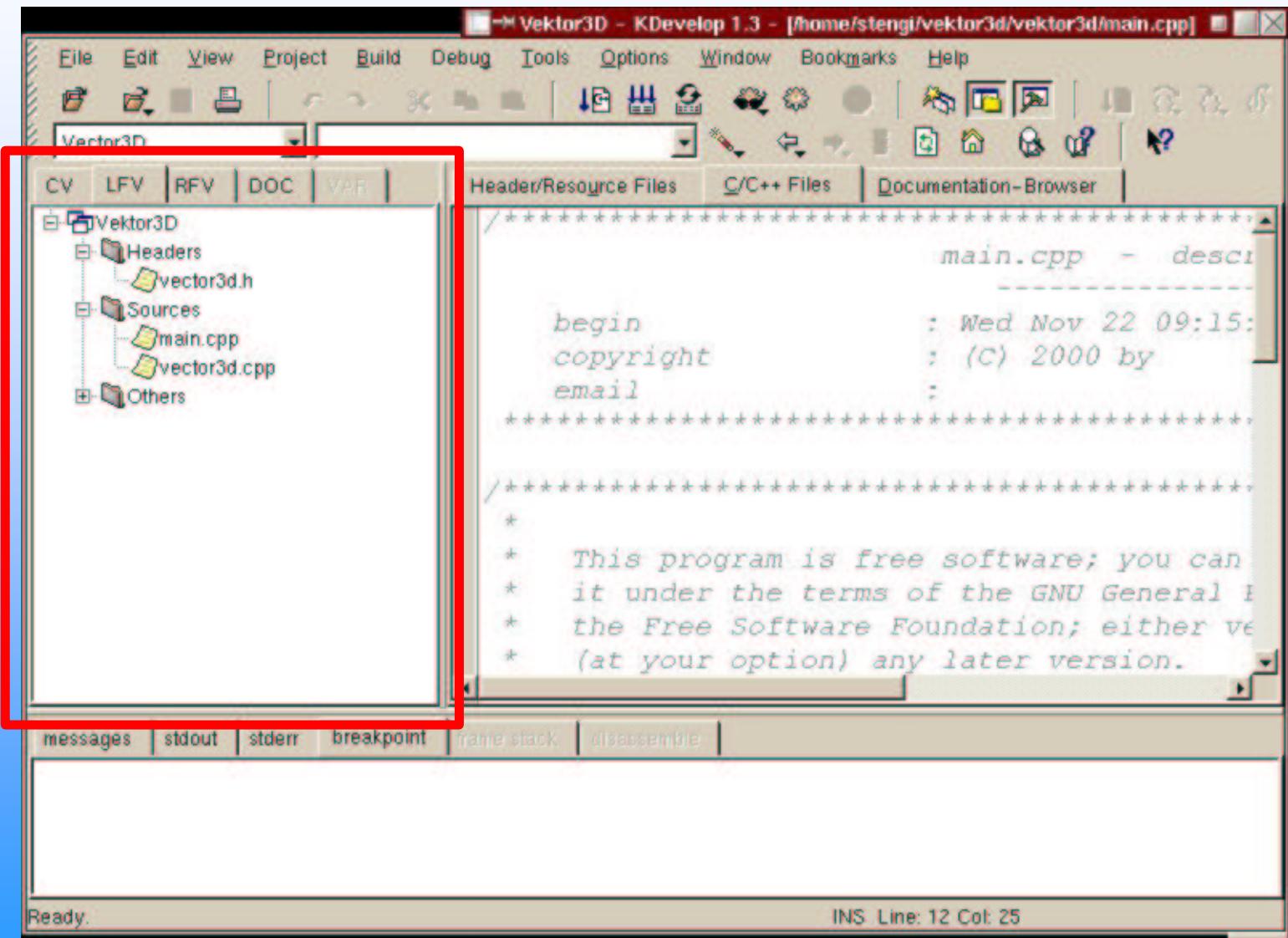
# A kdevelop főablaka



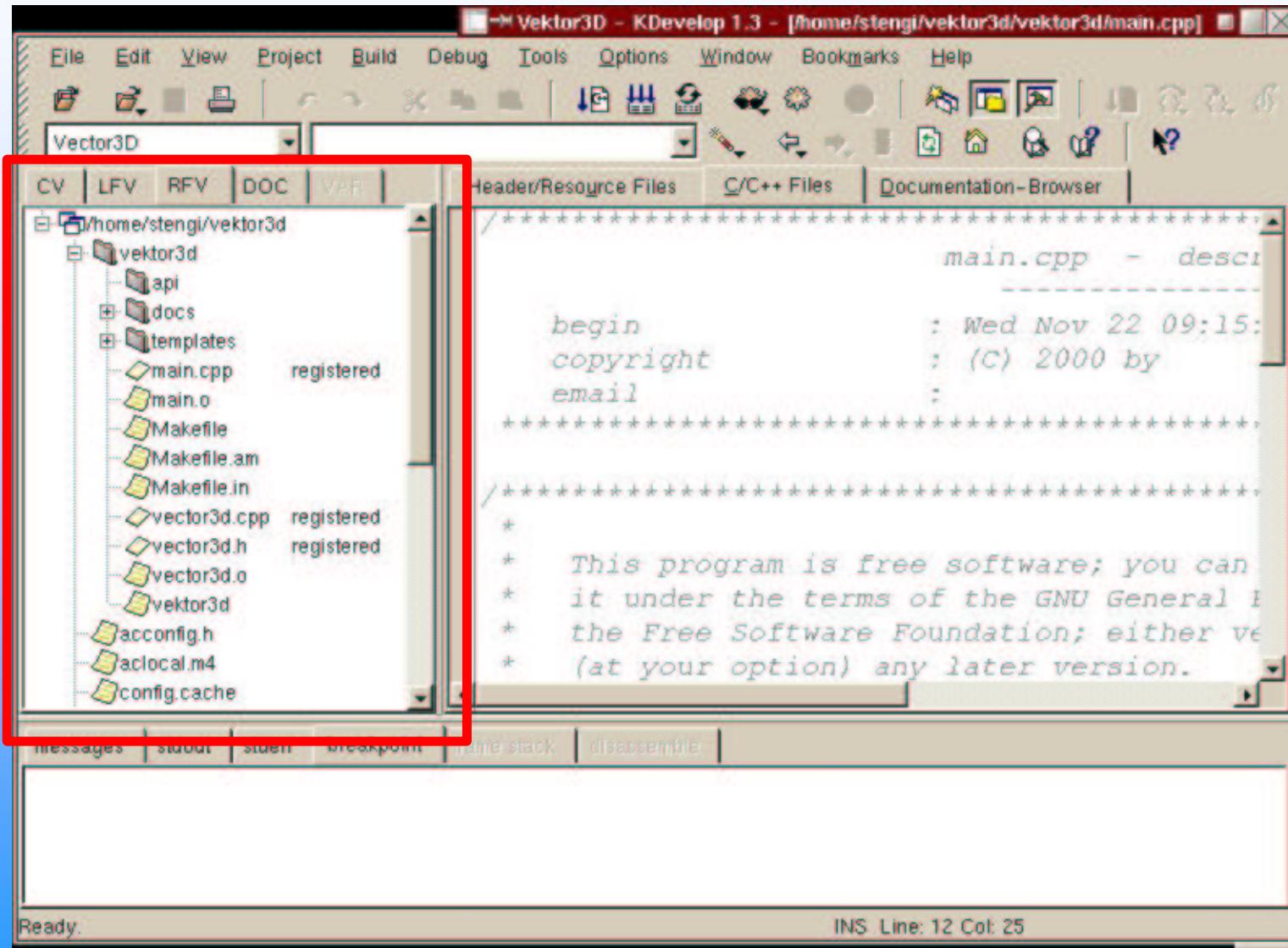
# Osztály browser



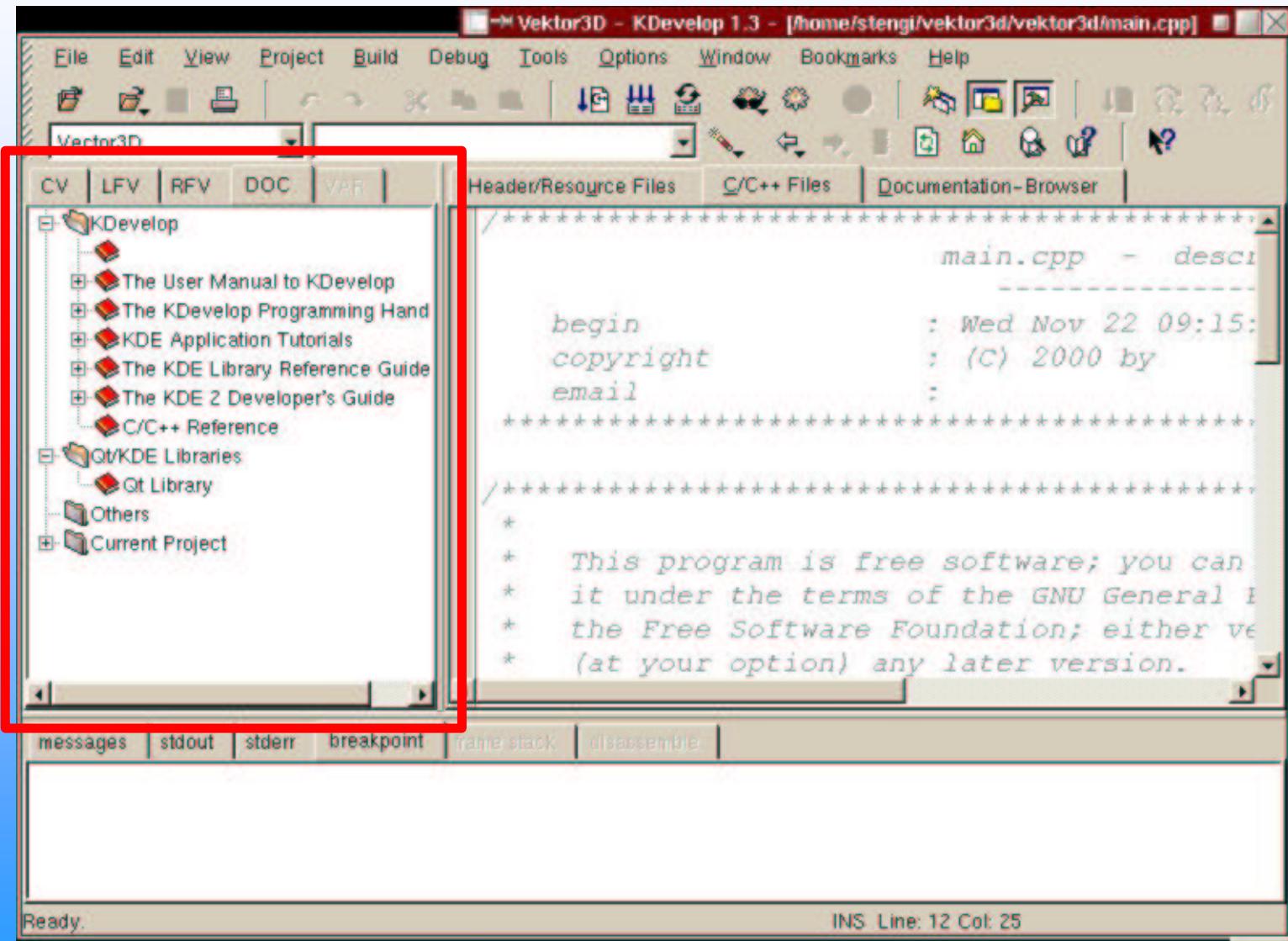
# Logikai file nézet



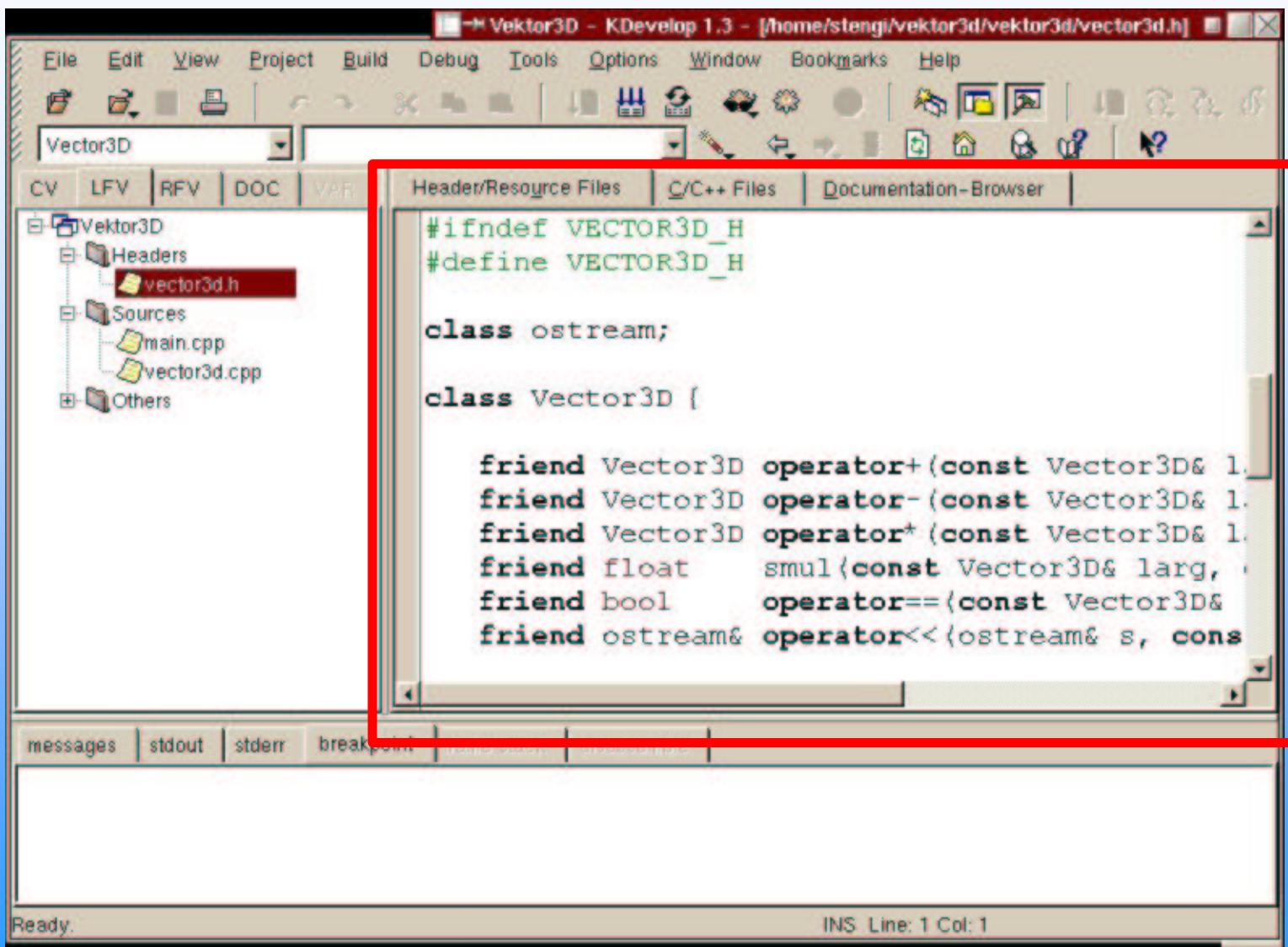
# Fizikai file nézet (könyvtárstruktúra)



# Dokumentáció struktúra



# Editor: deklarációs file k



```
#ifndef VECTOR3D_H
#define VECTOR3D_H

class ostream;

class Vector3D {

    friend Vector3D operator+(const Vector3D& l,
    friend Vector3D operator-(const Vector3D& l,
    friend Vector3D operator*(const Vector3D& l,
    friend float smul(const Vector3D& larg,
    friend bool operator==(const Vector3D&
    friend ostream& operator<<(ostream& s, const
```

# Editor: implementációs file dk

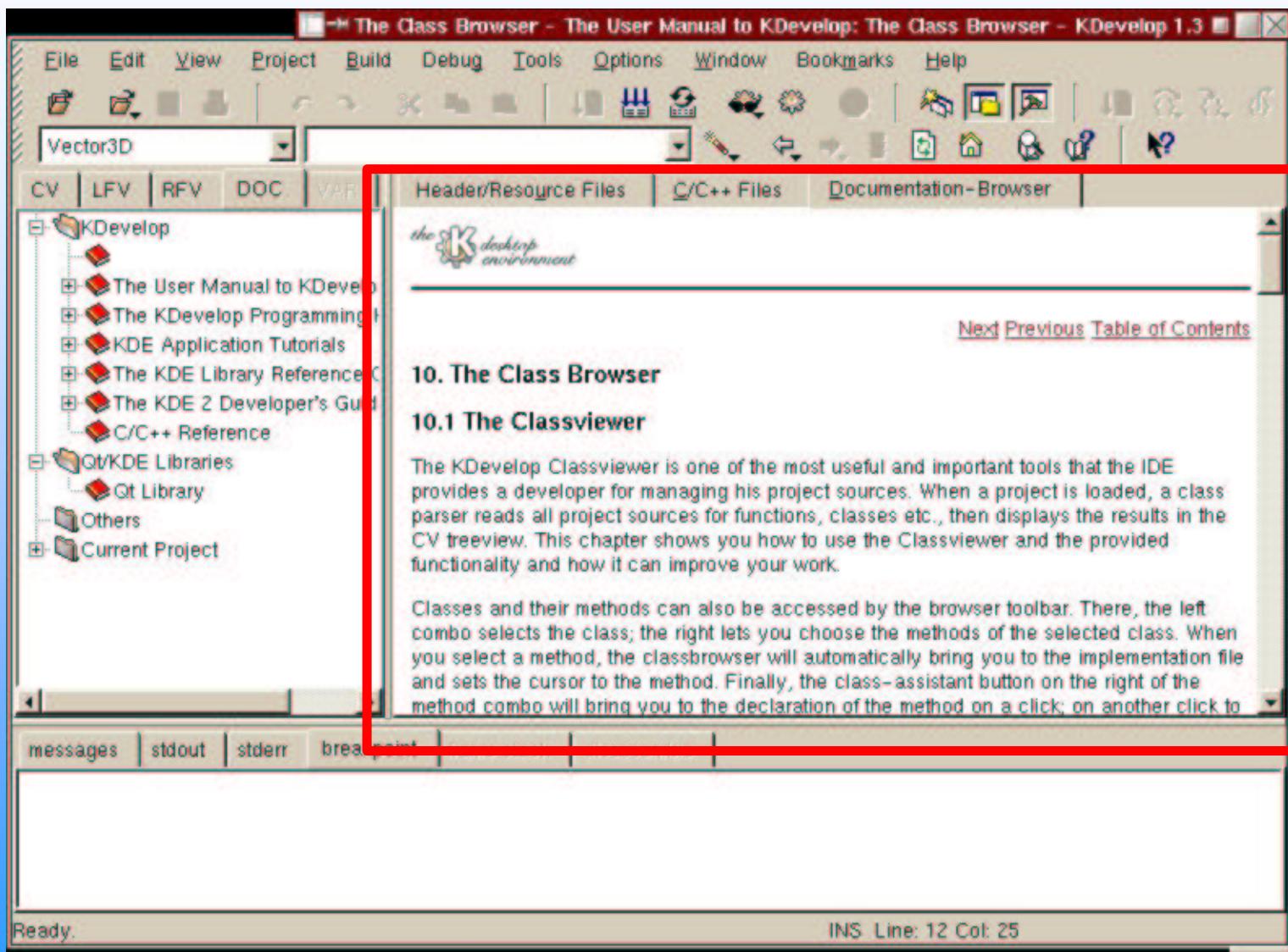
The screenshot shows the KDevelop 1.3 IDE interface. The title bar indicates the project is "Vektor3D" and the file being edited is "main.cpp". The menu bar includes File, Edit, View, Project, Build, Debug, Tools, Options, Window, Bookmarks, and Help. The toolbar contains various icons for file operations like Open, Save, and Build. The left sidebar displays the project structure under "Vector3D": Headers (vector3d.h), Sources (main.cpp, vector3d.cpp), and Others. The main editor area has tabs for Header/Resource Files, C/C++ Files, and Documentation-Browser, with "C/C++ Files" selected. A red box highlights the code editor window. The code itself is:

```
#include "vector3d.h"

int main(int argc, char *argv[])
{
    Vector3D a(1,2,3), b(4,5,6);
    cout << "a = " << a << endl;
    cout << "b = " << b << endl;
    cout << "NULVECT = " << Vector3D::NULVECT << endl;
    cout << "a+b = " << a+b << endl;
    cout << "a-b = " << a-b << endl;
    cout << "a*b = " << a*b << endl;
    cout << "a^b = " << smul(a,b) << endl;
    cout << "(a == b) = " << ((a == b)? "true" : "false") << endl;
}
```

The status bar at the bottom shows "Ready." and "INS Line: 12 Col: 25".

# Dokumentáció böngésző



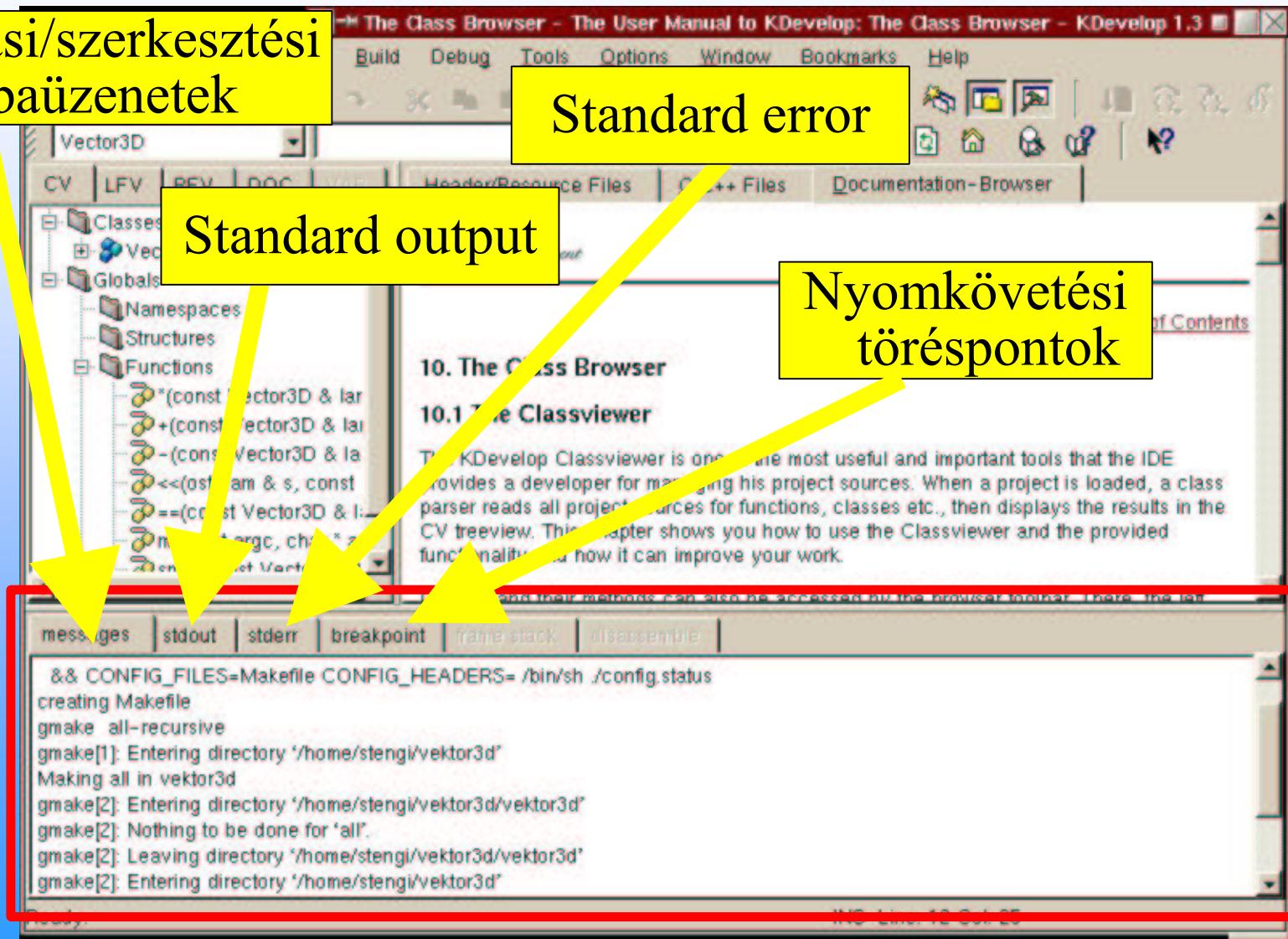
# Üzenetek

Fordítási/szerkesztési hibaüzenetek

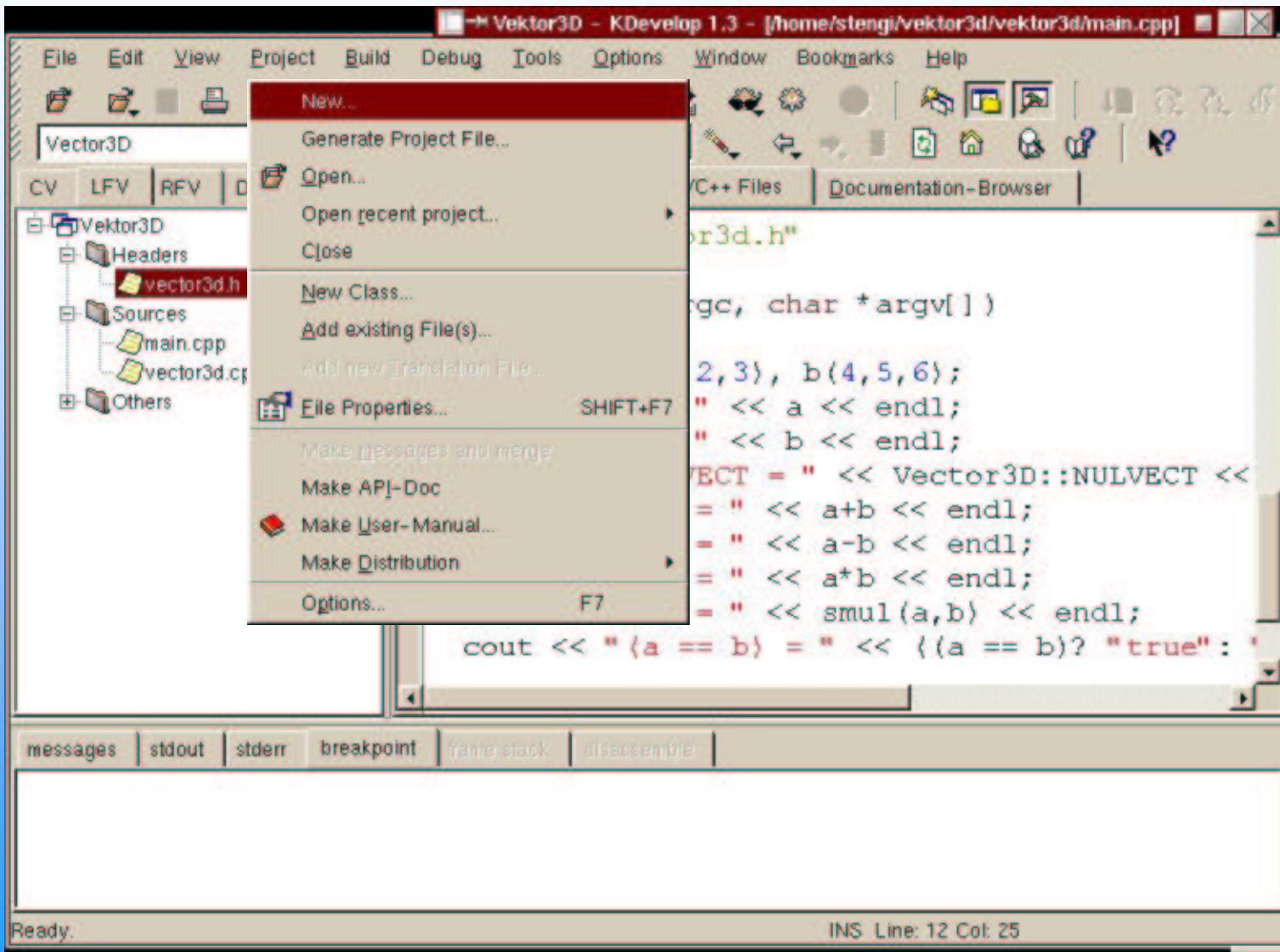
Standard error

Standard output

Nyomkövetési töréspontok



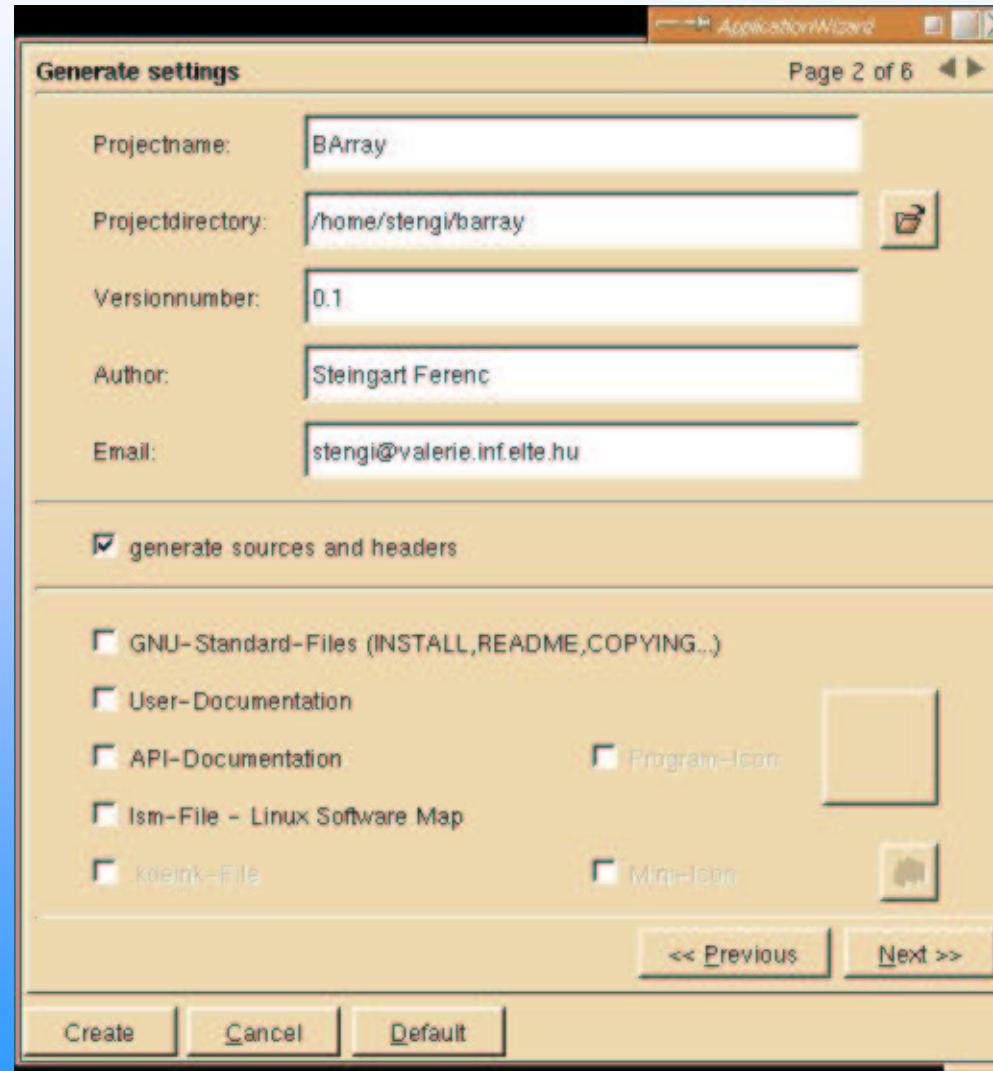
# Projekt menü



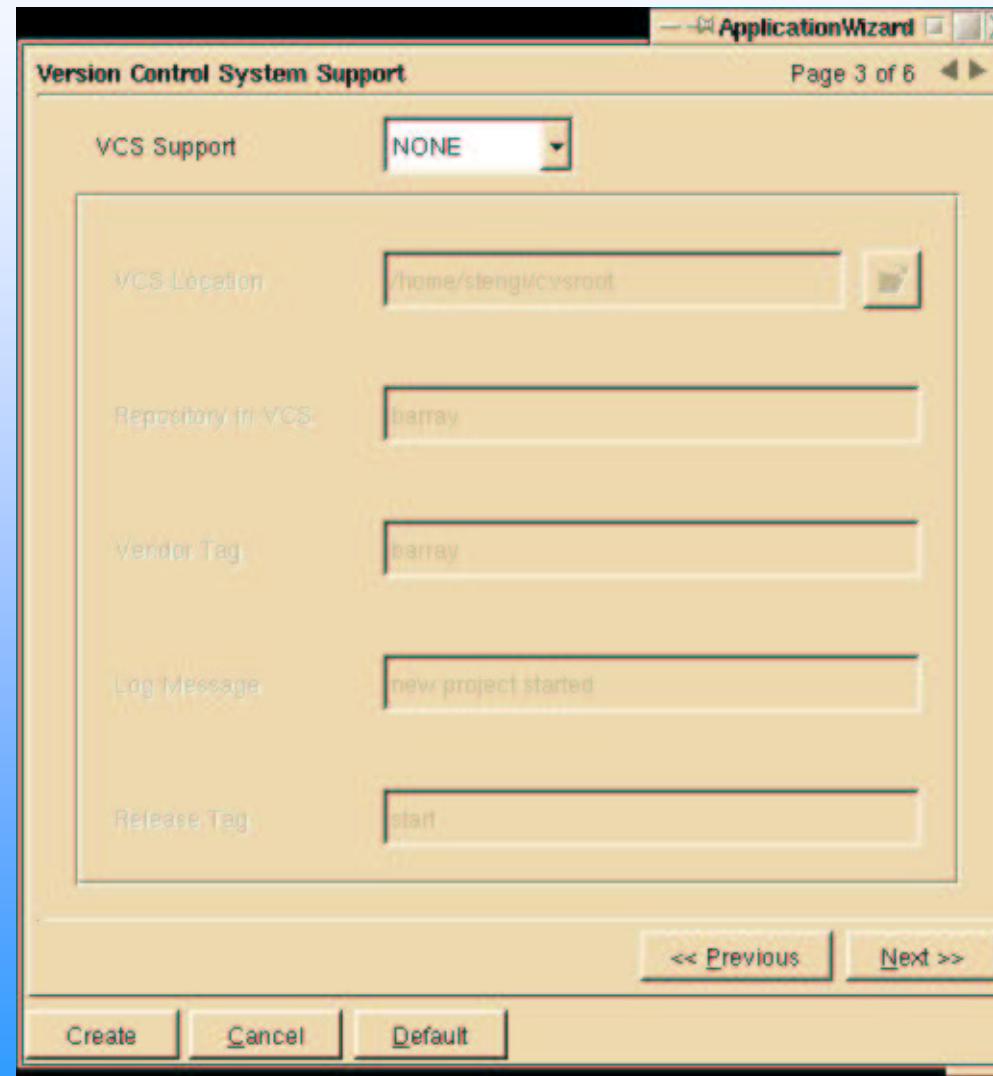
# Új projekt kezdése 1.



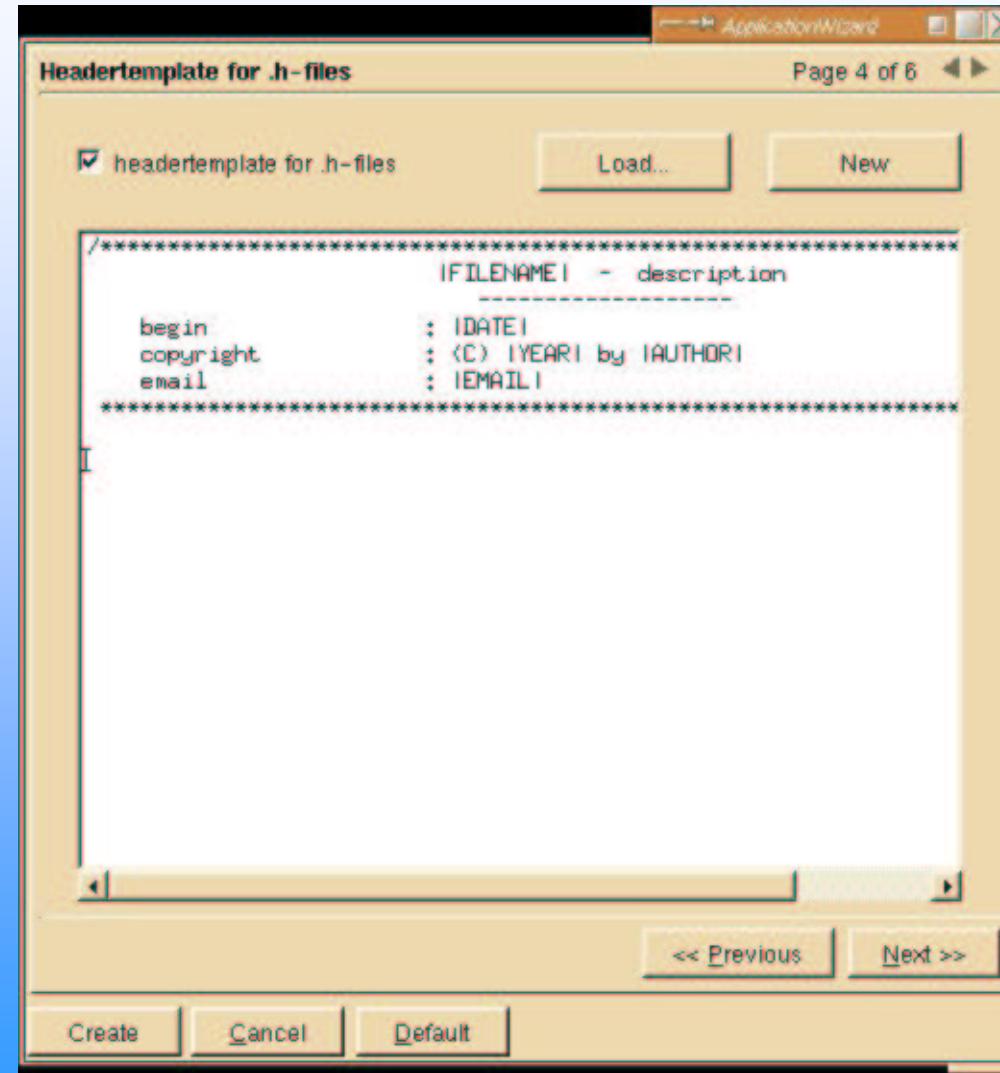
# Új projekt kezdése 2.



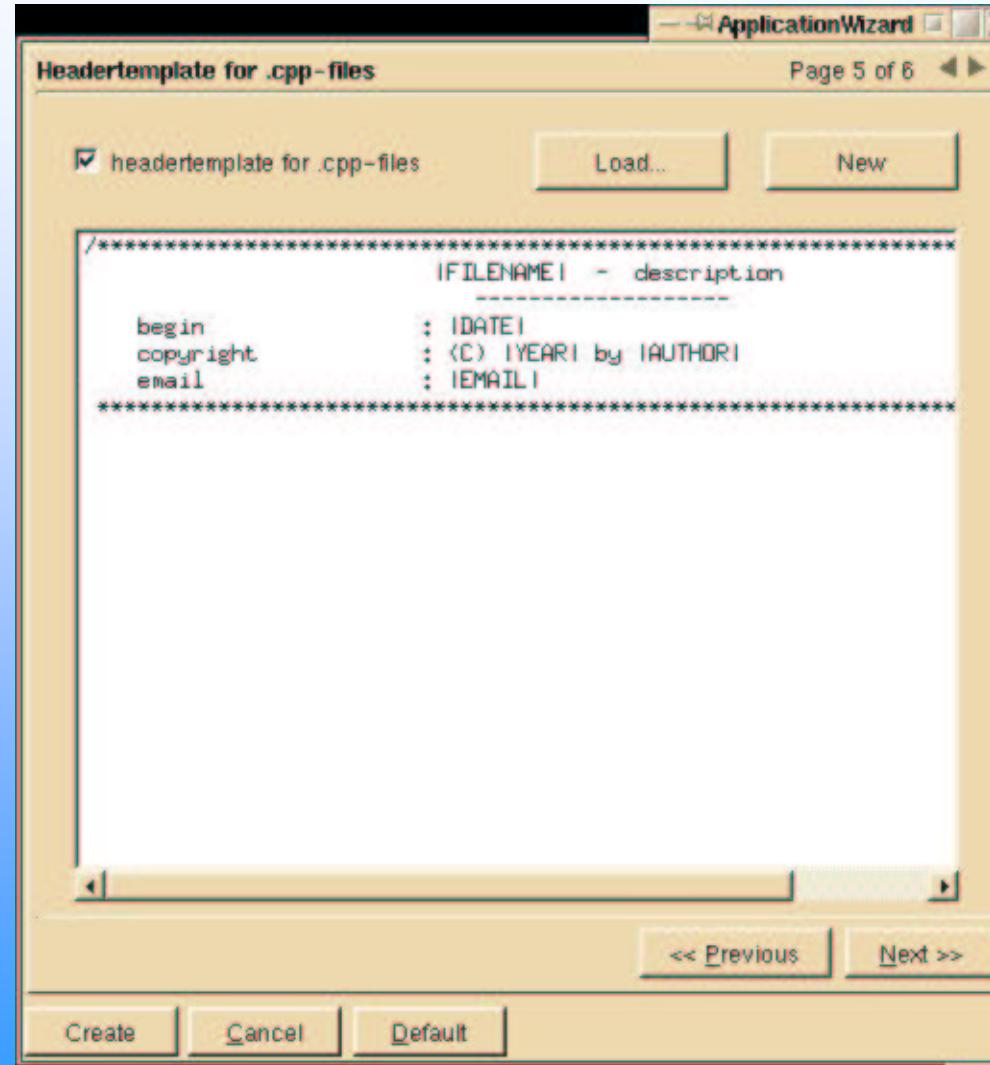
# Új projekt kezdése 3.



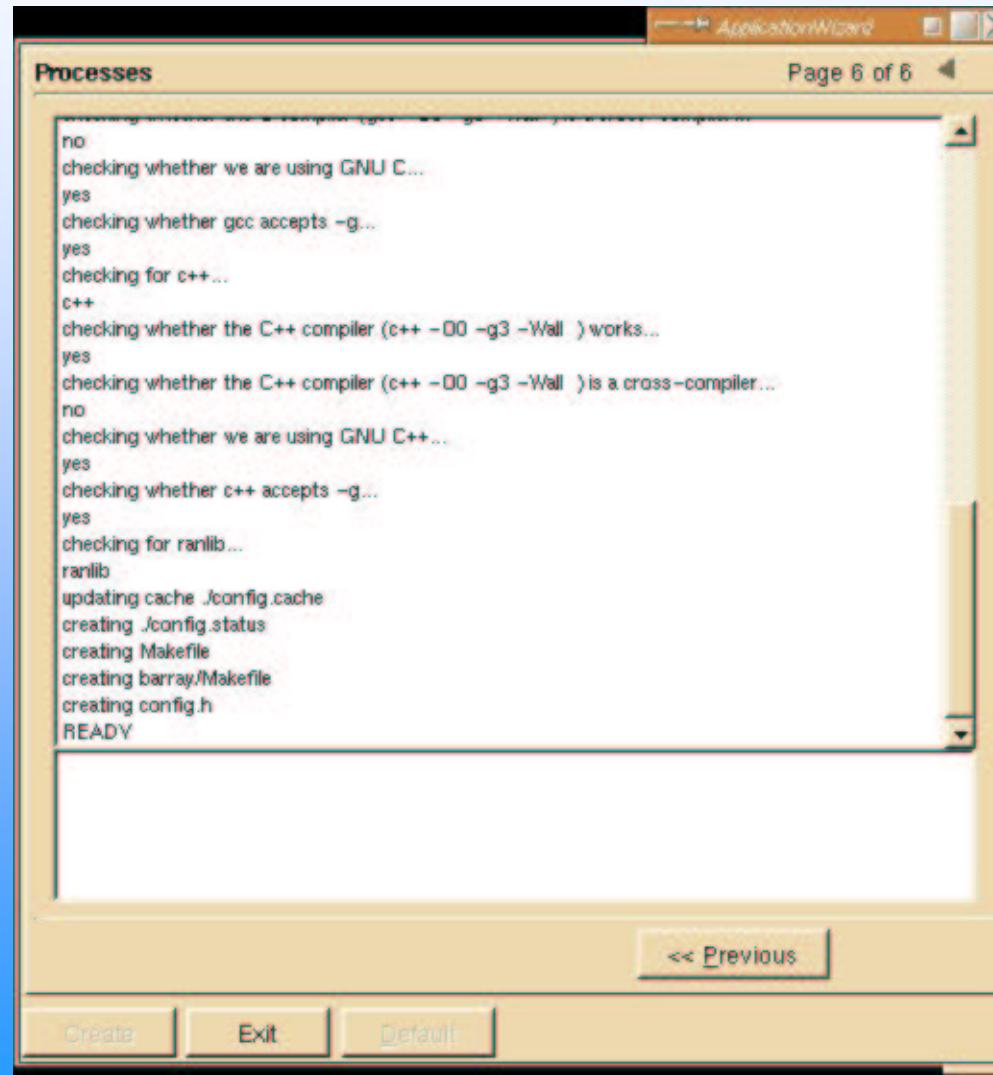
# Új projekt kezdése 4.



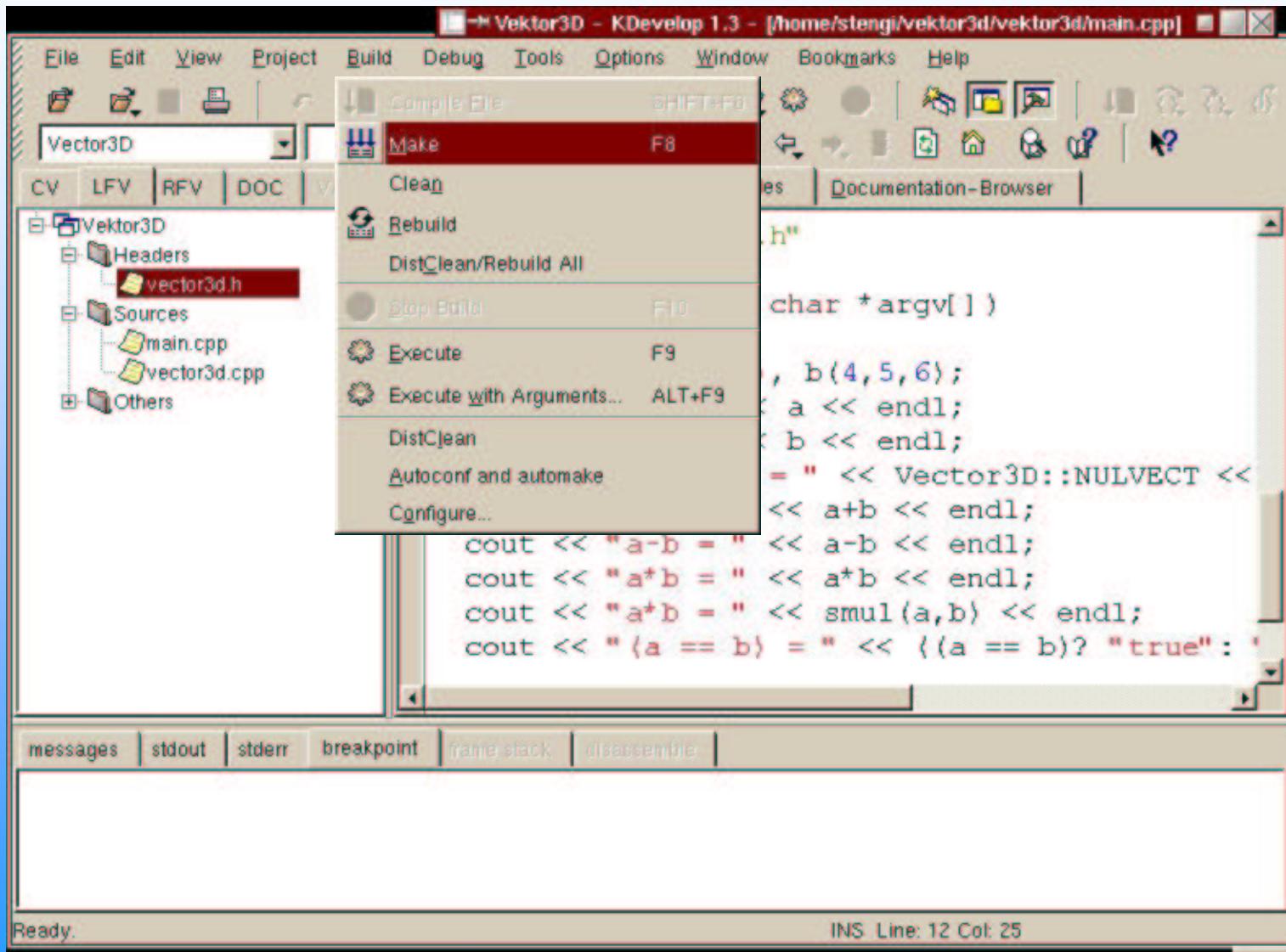
# Új projekt kezdése 5.



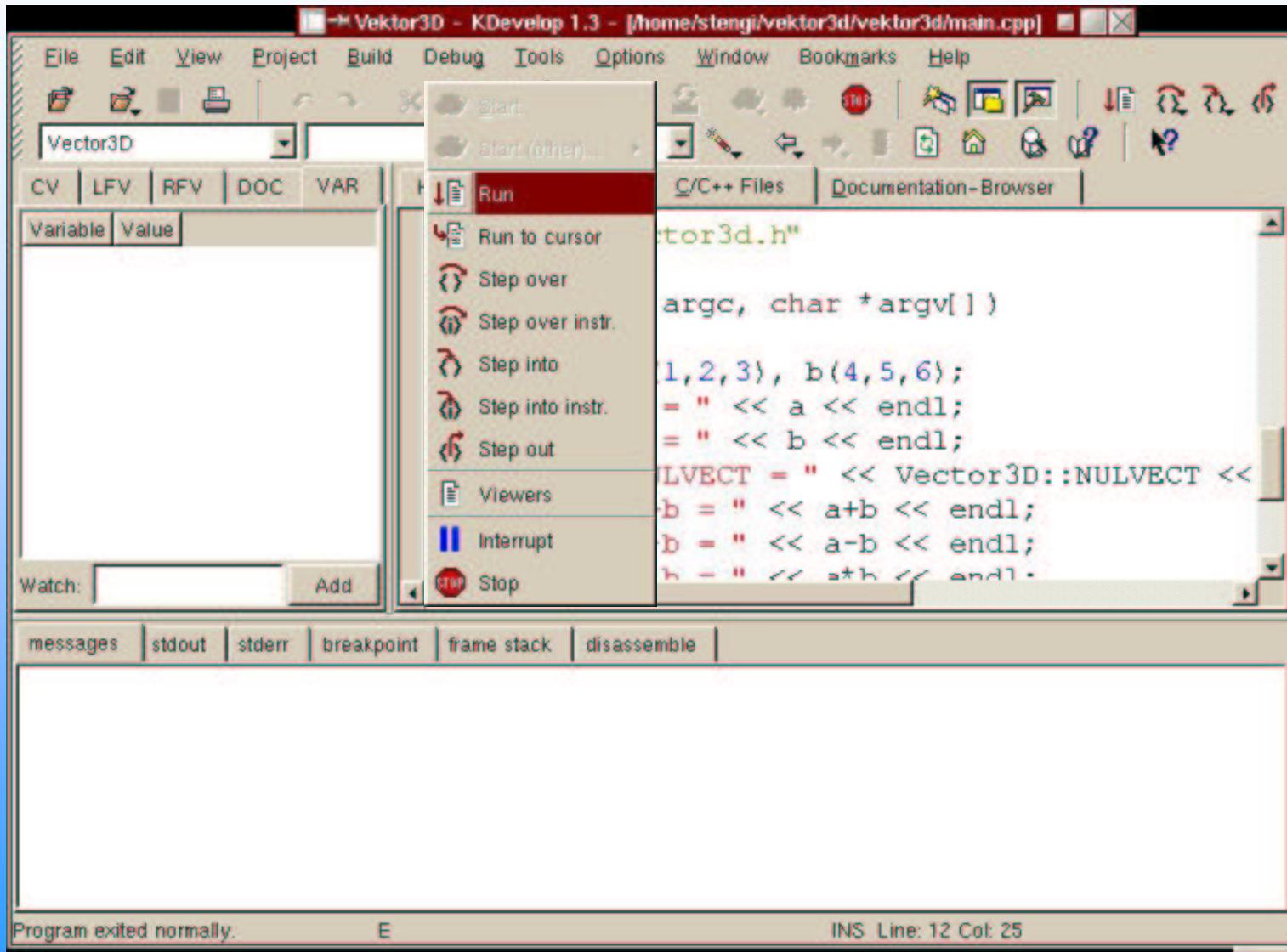
# Új projekt kezdése 6.



# Build menü



# Debug menü



# Nyomkövetés

The screenshot shows the KDevelop 1.3 IDE interface. The title bar reads "Hello - KDevelop 1.3 - [/home/stengi/hello/hello/main.cpp]". The menu bar includes File, Edit, View, Project, Build, Debug, Tools, Options, Window, Bookmarks, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and Build. The left sidebar has tabs for CV, LFV, RFV, DOC, and VAR, with VAR selected. It displays a tree view of project symbols under the Globals section, including Namespaces, Structures, Functions, and Variables. The main editor area shows the following C++ code:

```
#include <iostream>
using namespace std;

int main()
{
    cout << "Hello, World!" << endl;

    return 0;
}
```

The bottom pane shows the terminal output of the build process:

```
gmake[3]: Leaving directory '/home/stengi/hello/hello/docs'
gmake[3]: Entering directory '/home/stengi/hello/hello'
g++ -DHAVE_CONFIG_H -I. -I. -O0 -g3 -Wall -c main.cpp
/bin/sh ./libtool --mode=link g++ -O0 -g3 -Wall -o hello main.o
g++ -O0 -g3 -Wall -o hello main.o
gmake[3]: Leaving directory '/home/stengi/hello/hello'
gmake[2]: Leaving directory '/home/stengi/hello/hello'
gmake[2]: Entering directory '/home/stengi/hello'
gmake[2]: Leaving directory '/home/stengi/hello'
gmake[1]: Leaving directory '/home/stengi/hello'
*** success ***
```

The status bar at the bottom indicates "Ready", "E", and "INS Line: 3 Col: 22".

# Nyomkövetés

The screenshot shows the KDevelop 1.3 IDE interface. The title bar reads "Hello - KDevelop 1.3 - [/home/stengi/hello/hello/main.cpp]". The menu bar includes File, Edit, View, Project, Build, Debug, Tools, Options, Window, Bookmarks, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and Build.

The left sidebar has tabs for CV, LFV, RFV, DOC, and VAR. The VAR tab is selected, showing a tree view of project symbols: Classes, Globals (Namespaces, Structures, Functions, Variables), and others.

The main editor area displays the following C++ code:

```
#include <iostream>
using namespace std;

int main()
{
    cout << "Hello, World!" << endl;

    return 0;
}
```

A blue circle icon with a question mark is placed next to the first line of code, indicating a breakpoint. The bottom panel shows the terminal output of the build process:

```
gmake[3]: Leaving directory '/home/stengi/hello/hello/docs'
gmake[3]: Entering directory '/home/stengi/hello/hello'
g++ -DHAVE_CONFIG_H -I. -I. -I. -O0 -g3 -Wall -c main.cpp
/bin/sh ./libtool --mode=link g++ -O0 -g3 -Wall -o hello main.o
g++ -O0 -g3 -Wall -o hello main.o
gmake[3]: Leaving directory '/home/stengi/hello/hello'
gmake[2]: Leaving directory '/home/stengi/hello/hello'
gmake[2]: Entering directory '/home/stengi/hello'
gmake[2]: Leaving directory '/home/stengi/hello'
gmake[1]: Leaving directory '/home/stengi/hello'
*** success ***
```

The status bar at the bottom indicates "Ready", "E", and "INS Line: 8 Col: 19".

# Nyomkövetés

The screenshot shows the KDevelop 1.3 IDE interface. The title bar reads "Hello - KDevelop 1.3 - [/home/stengi/hello/hello/main.cpp]". The menu bar includes File, Edit, View, Project, Build, Debug, Tools, Options, Window, Bookmarks, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and Build. The central code editor displays the following C++ code:

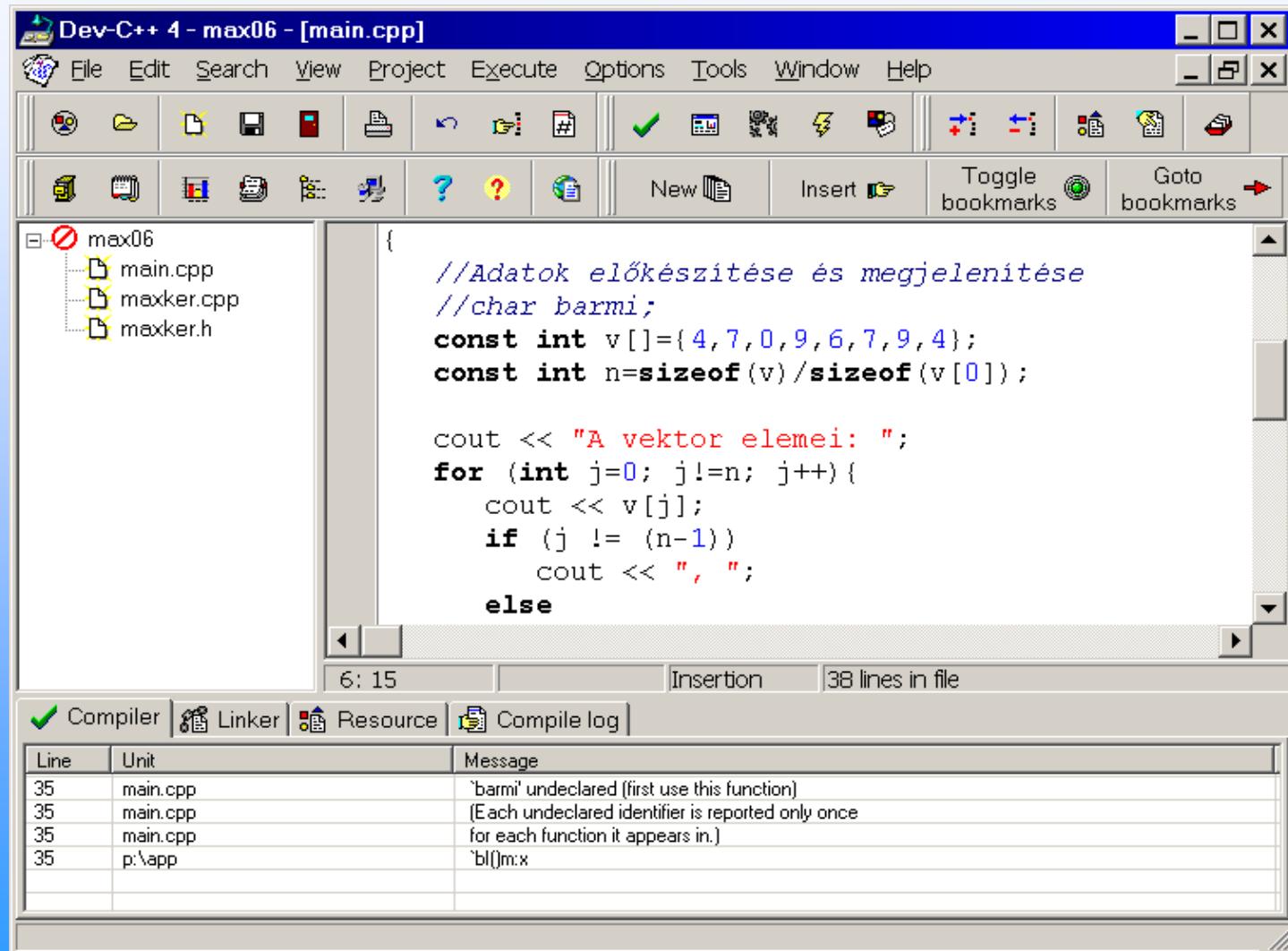
```
#include <iostream>
using namespace std;

int main()
{
    cout << "Hello, World!" << endl;

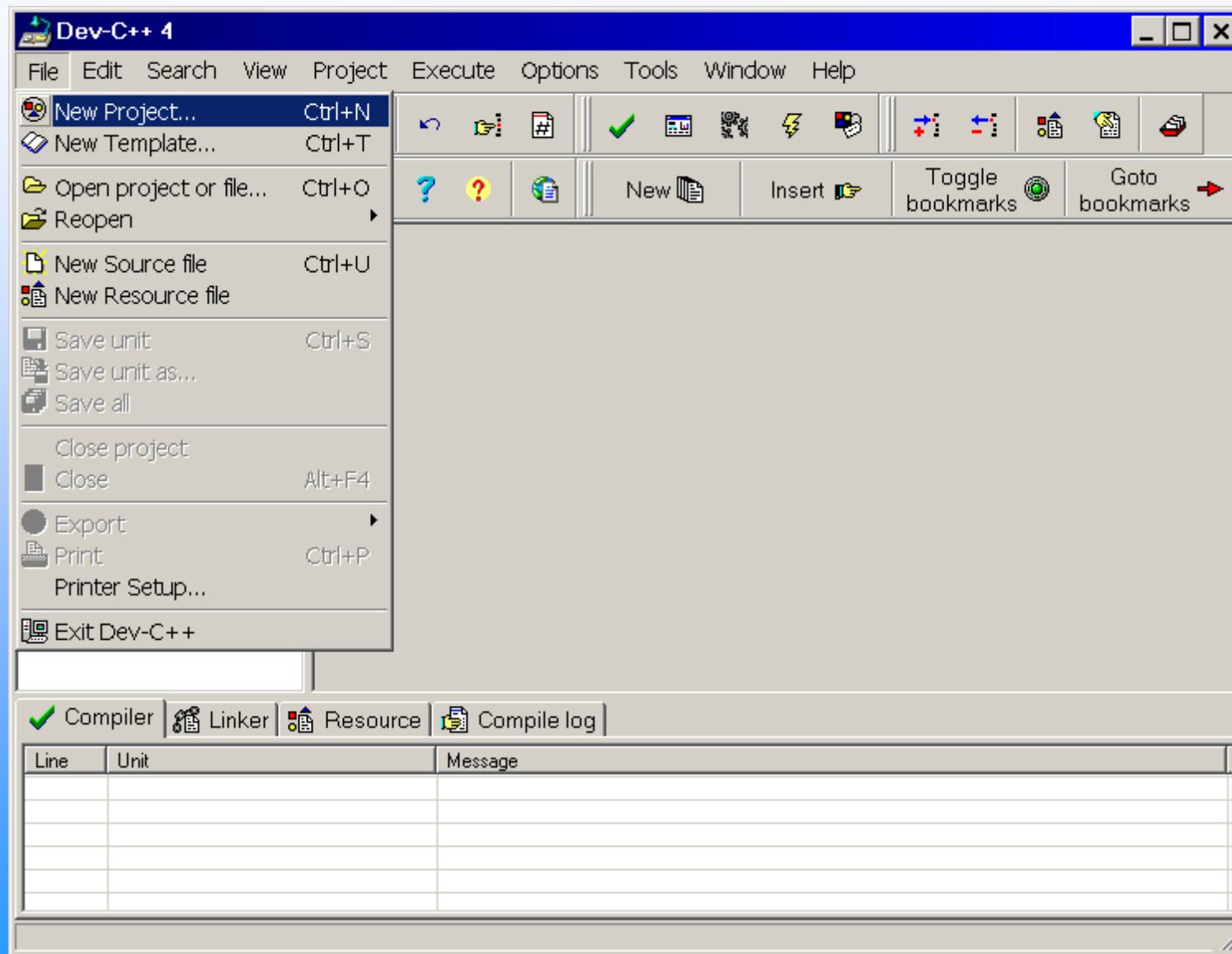
    return 0;
}
```

The line "cout << "Hello, World!" << endl;" has a green circular breakpoint icon to its left. The status bar at the bottom right shows "INS Line: 10 Col: 31".

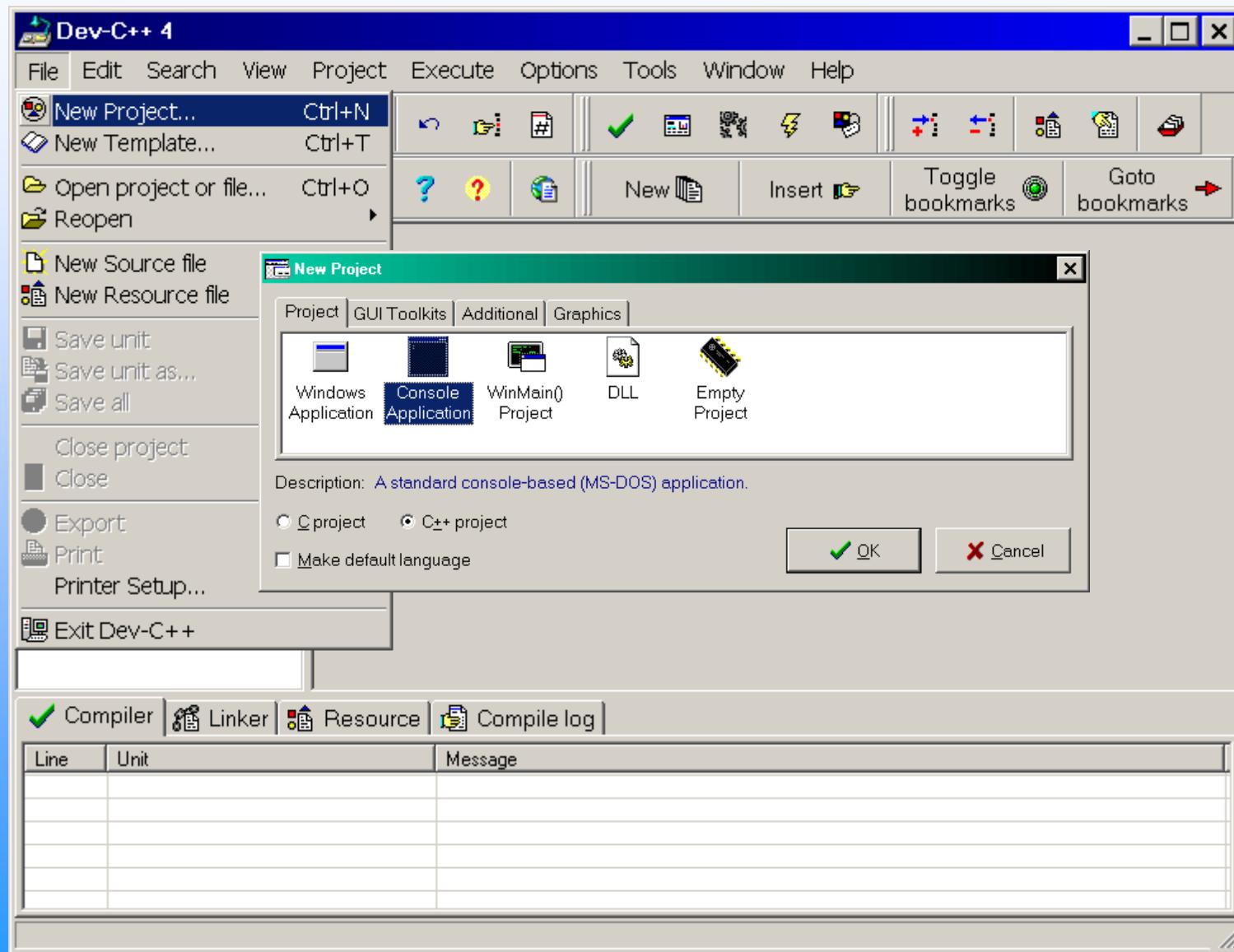
# A DevC++ főablaka



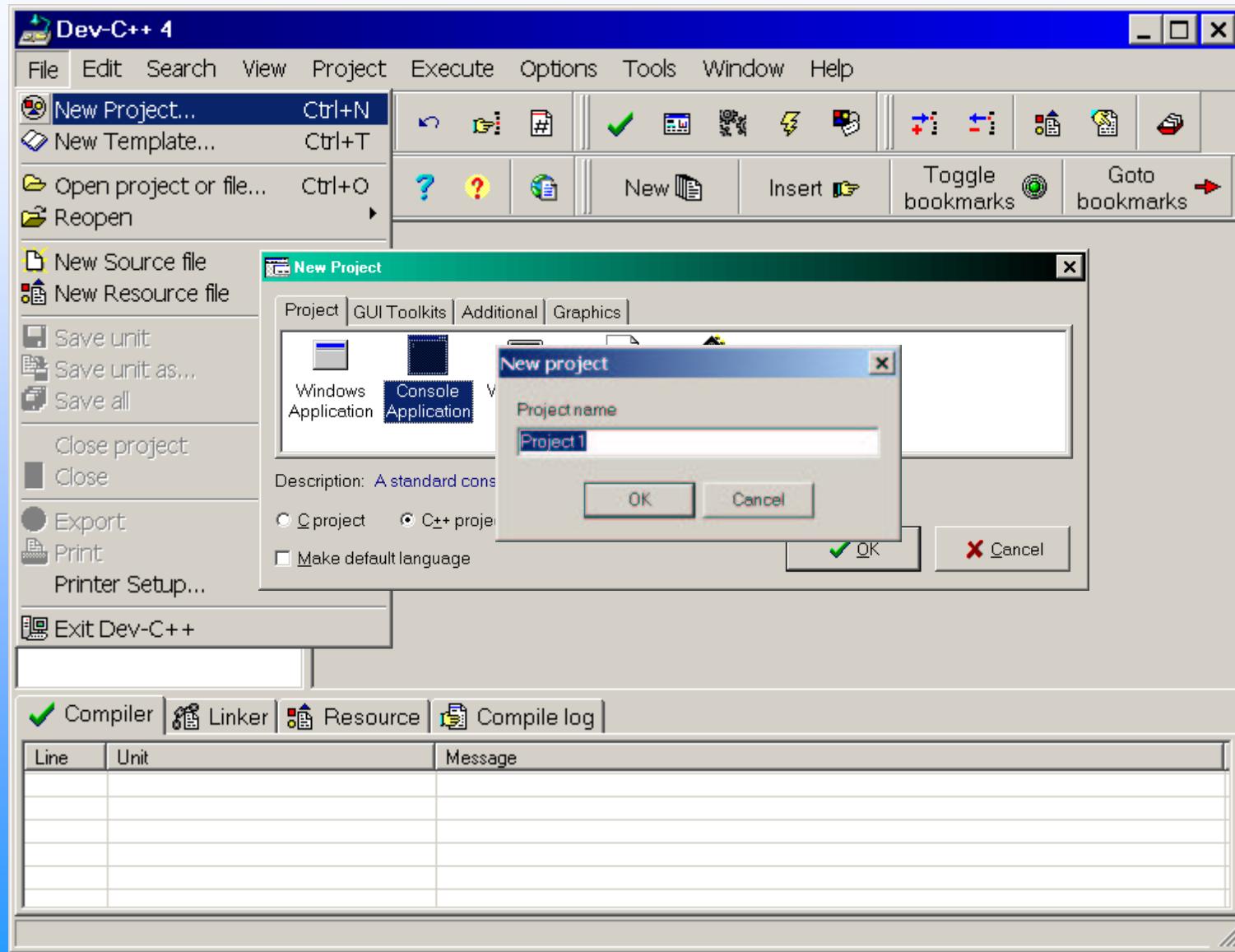
# Új projekt indítása



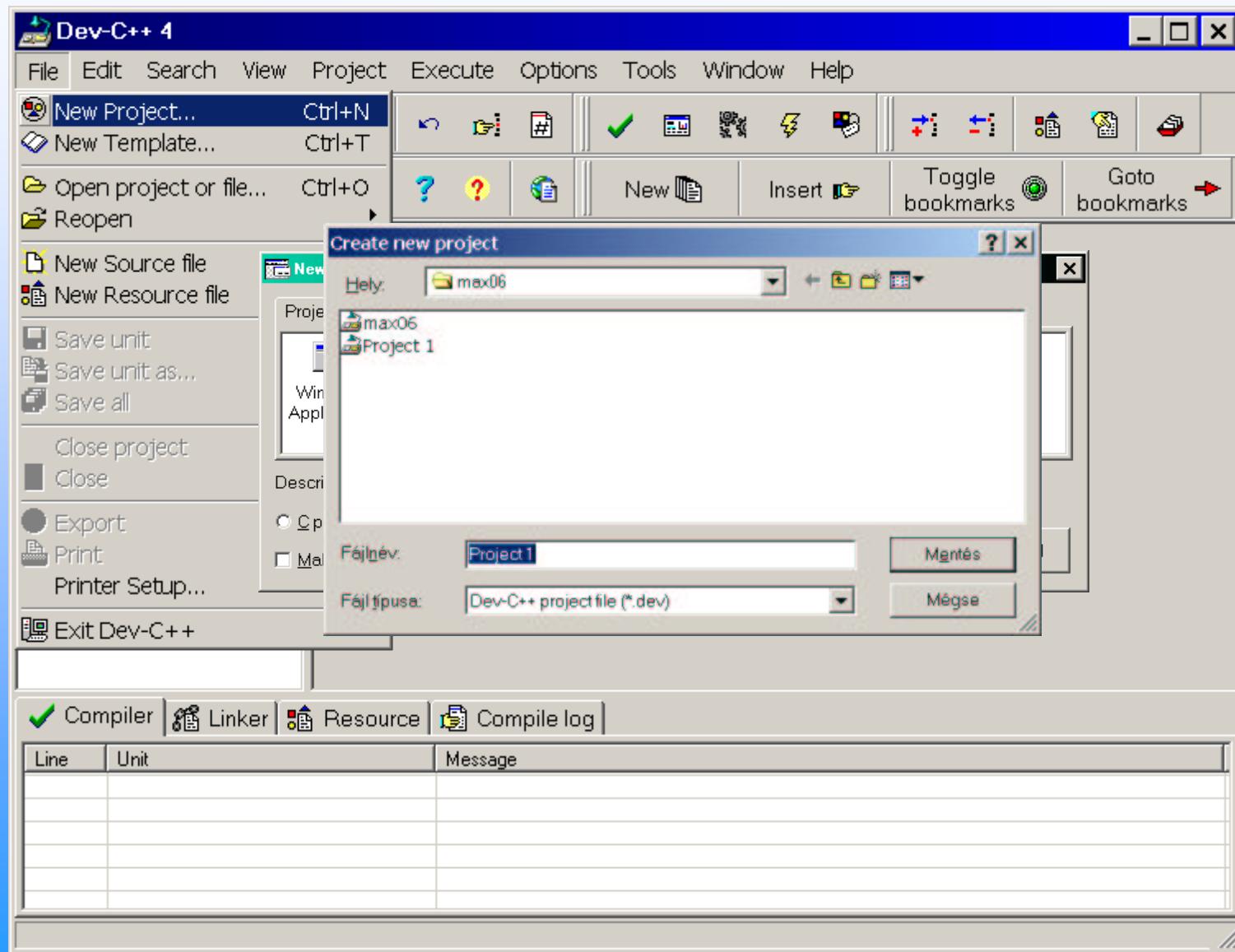
# Új projekt indítása



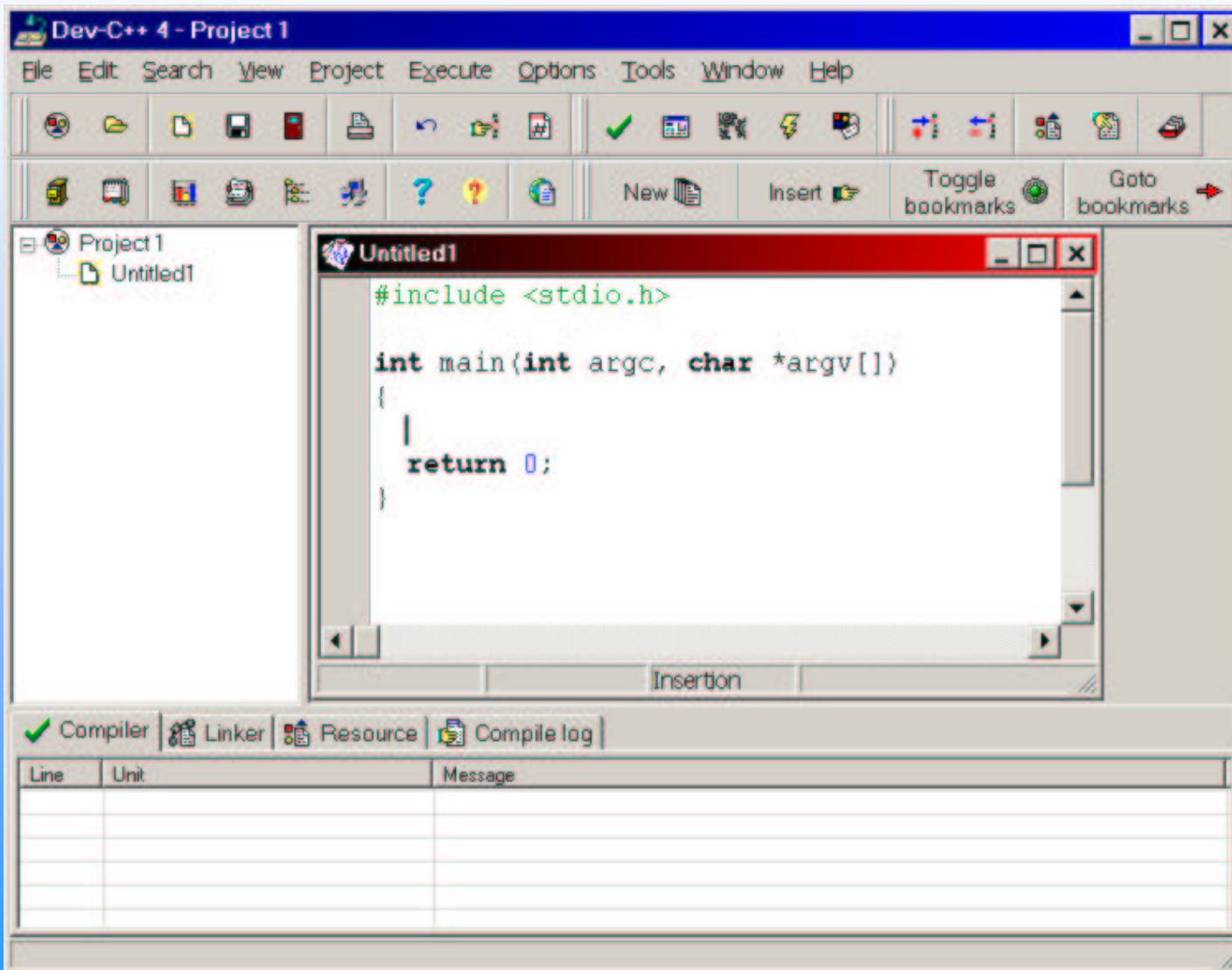
# Új projekt indítása



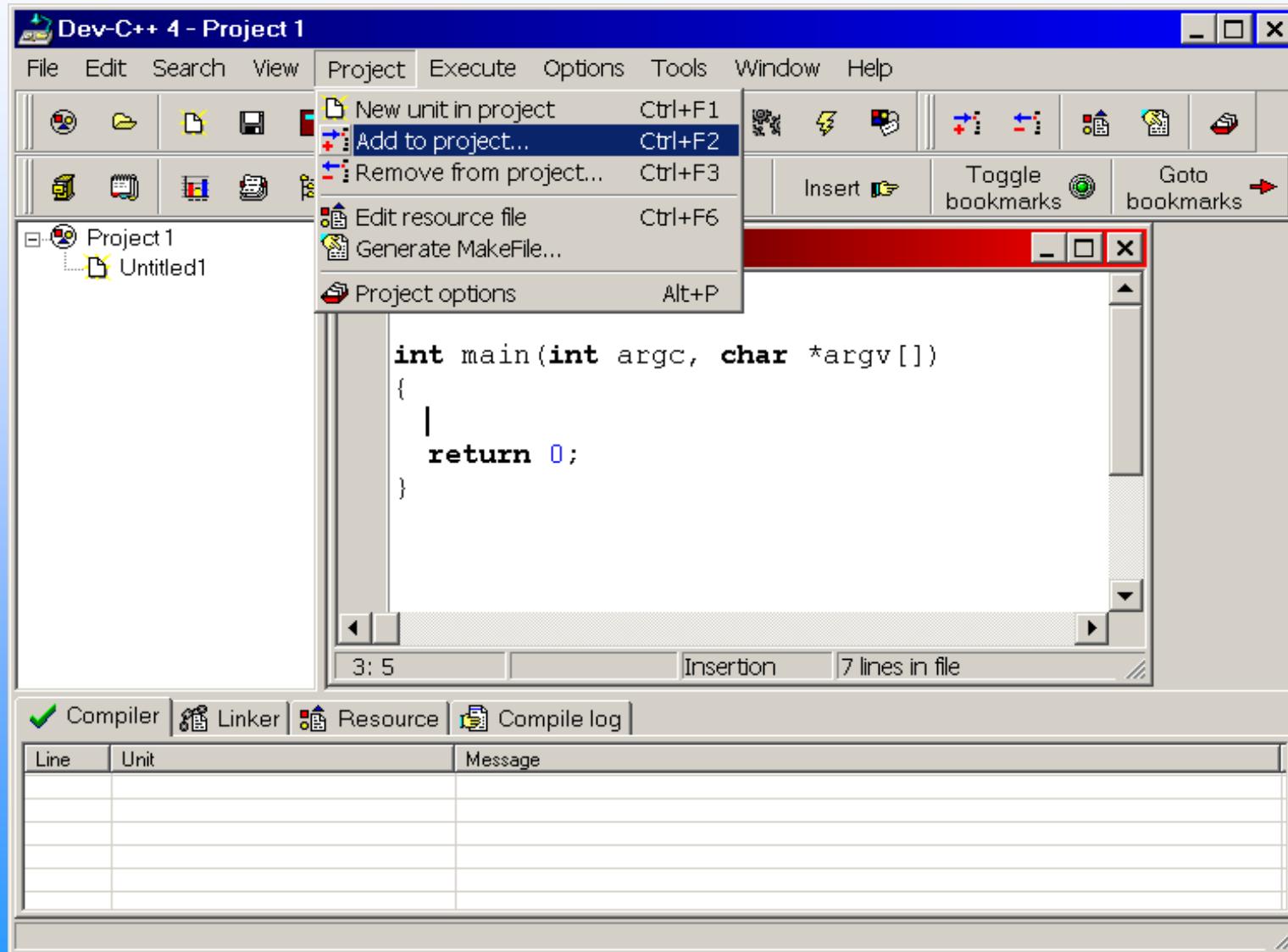
# Új projekt indítása



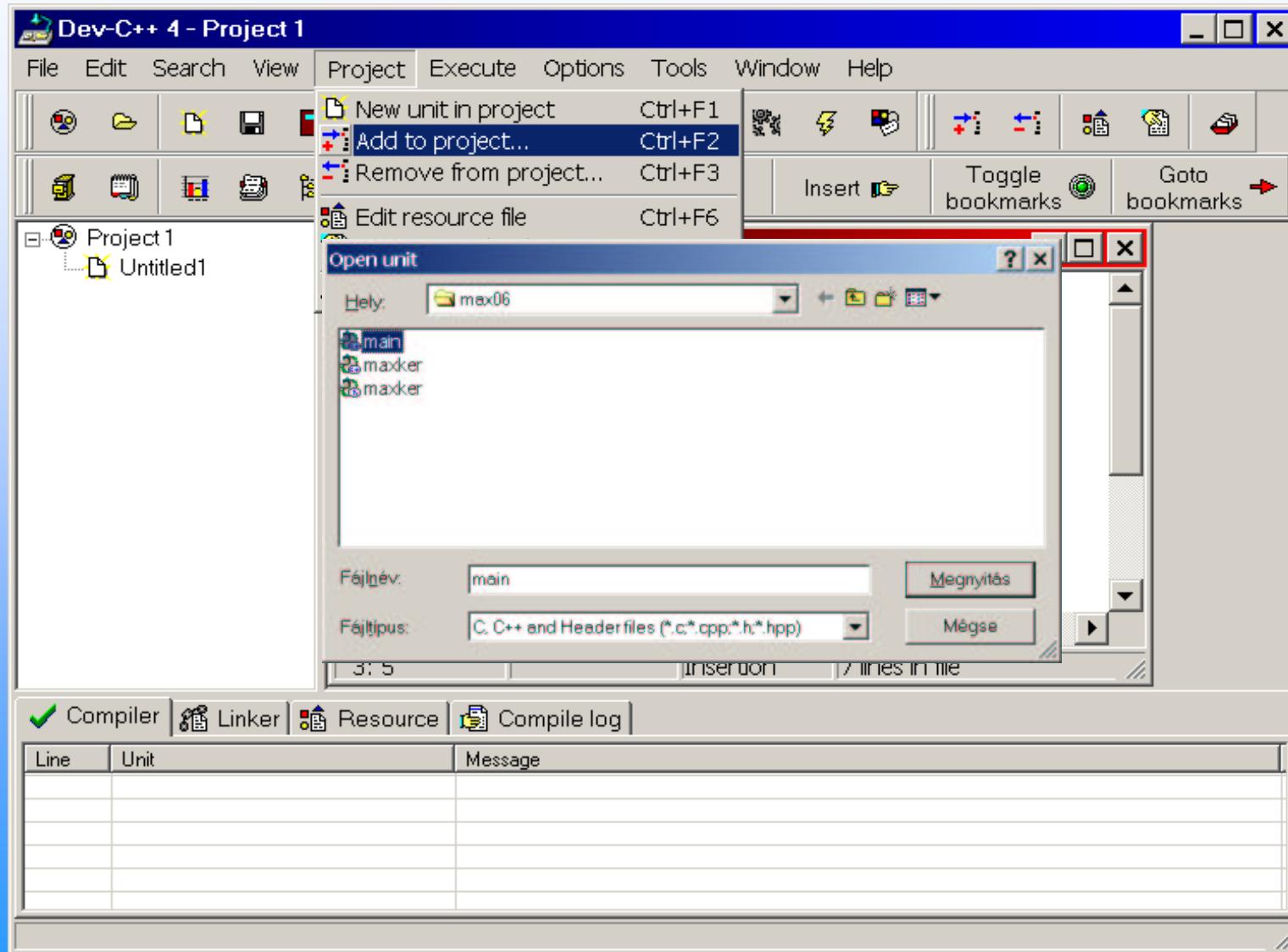
# Új projekt



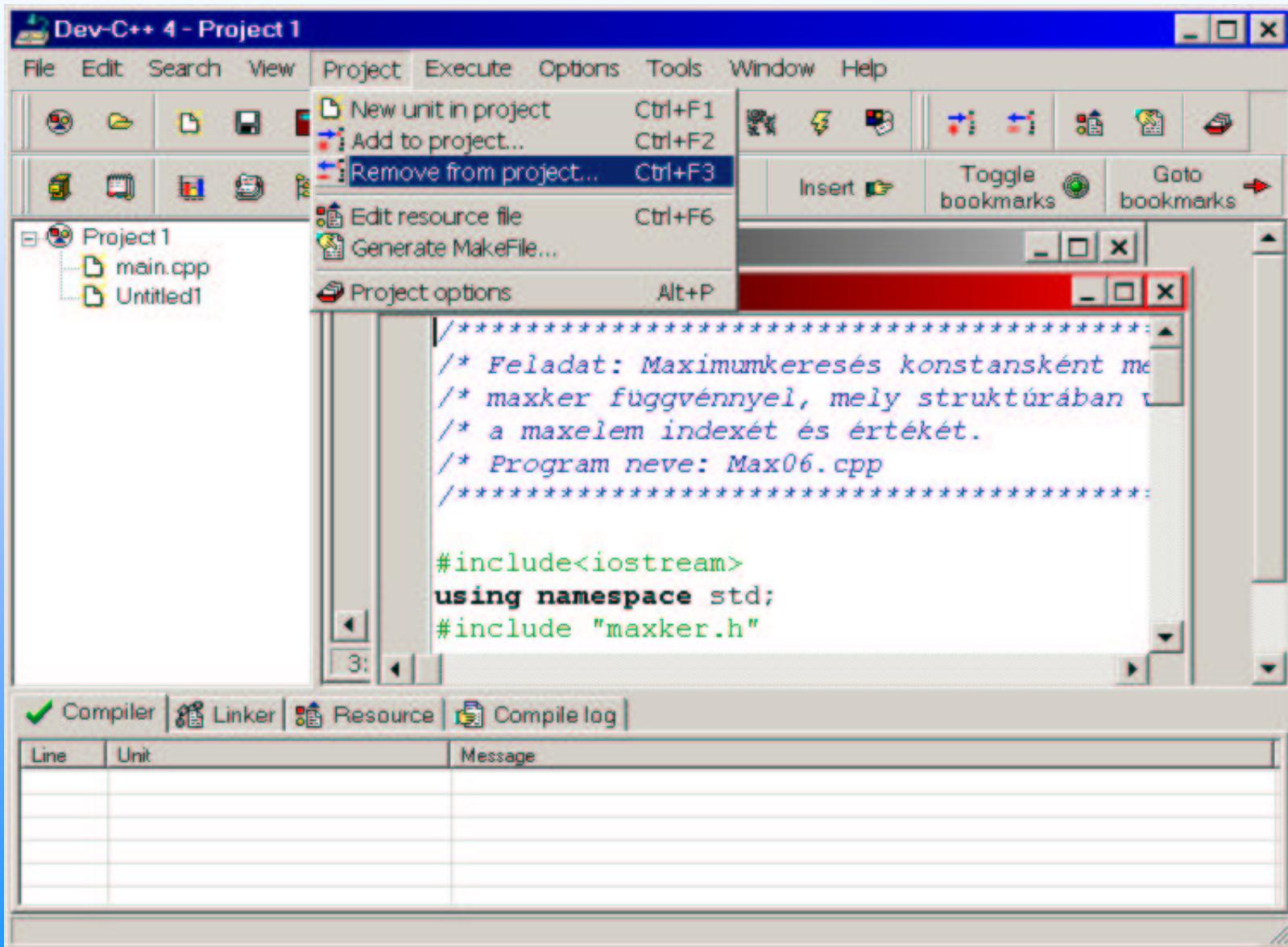
# File hozzávétel a projekthez



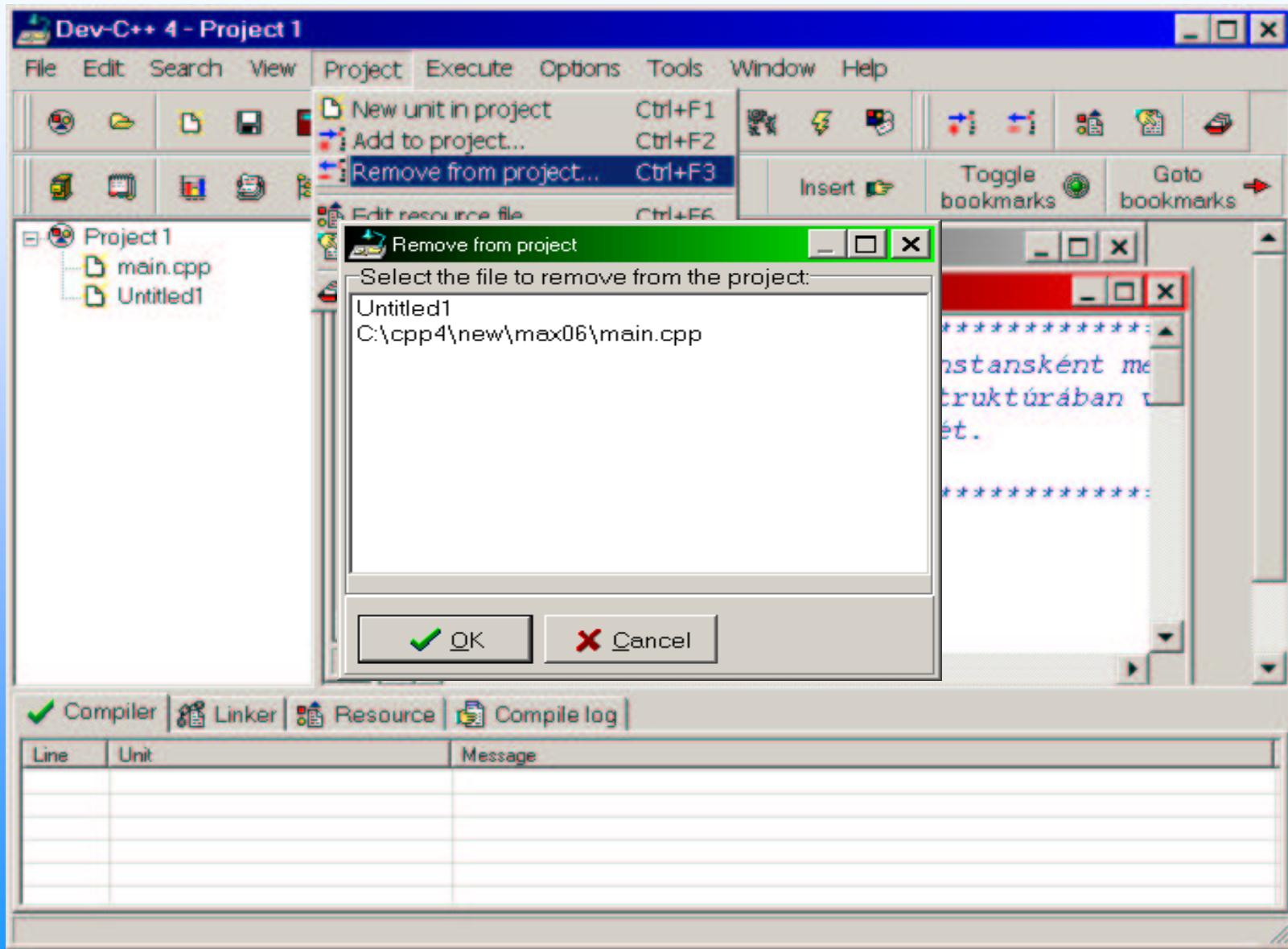
# File hozzávétele a projekthez



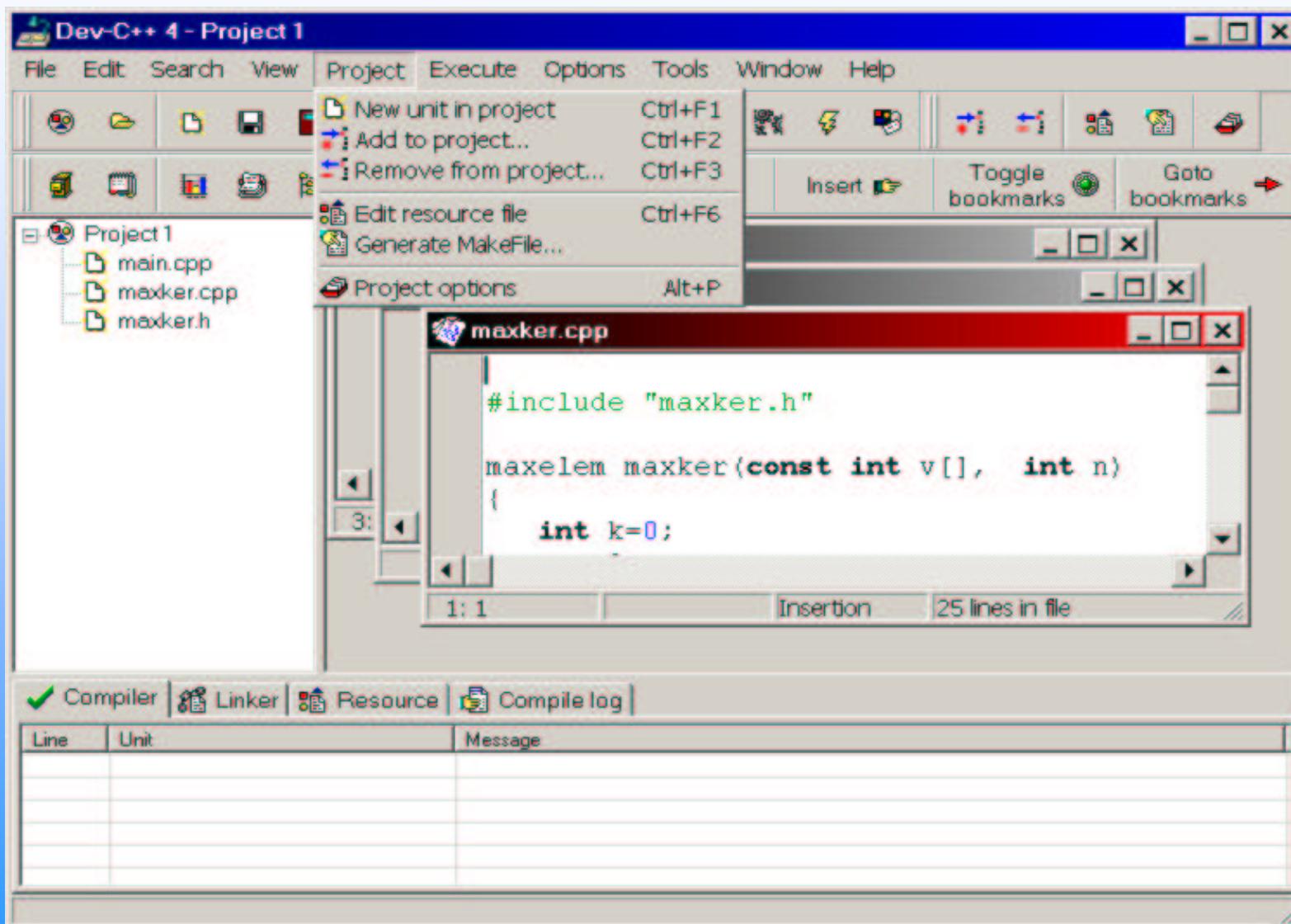
# File eltávolítása a projektből



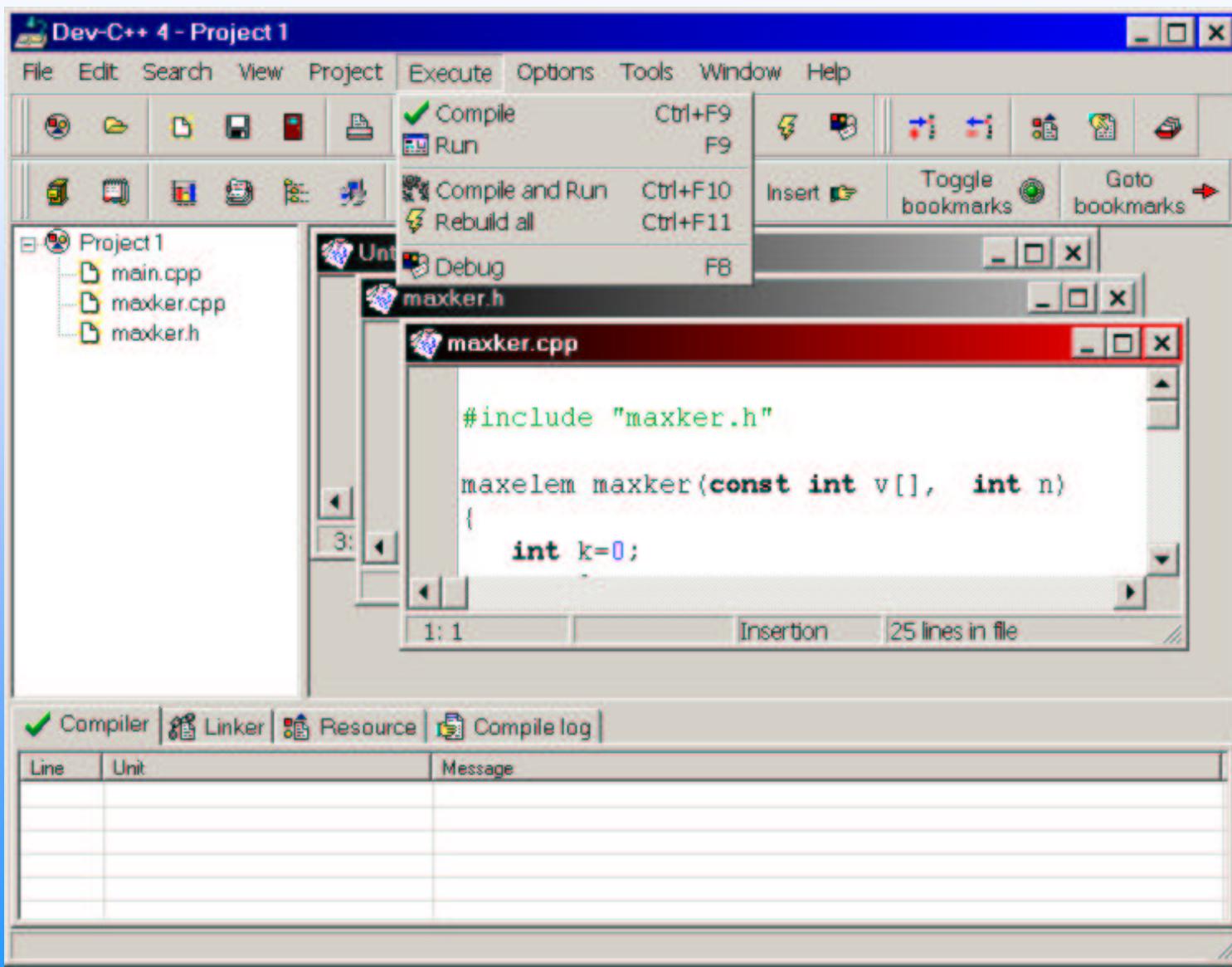
# File eltávolítása a projektből



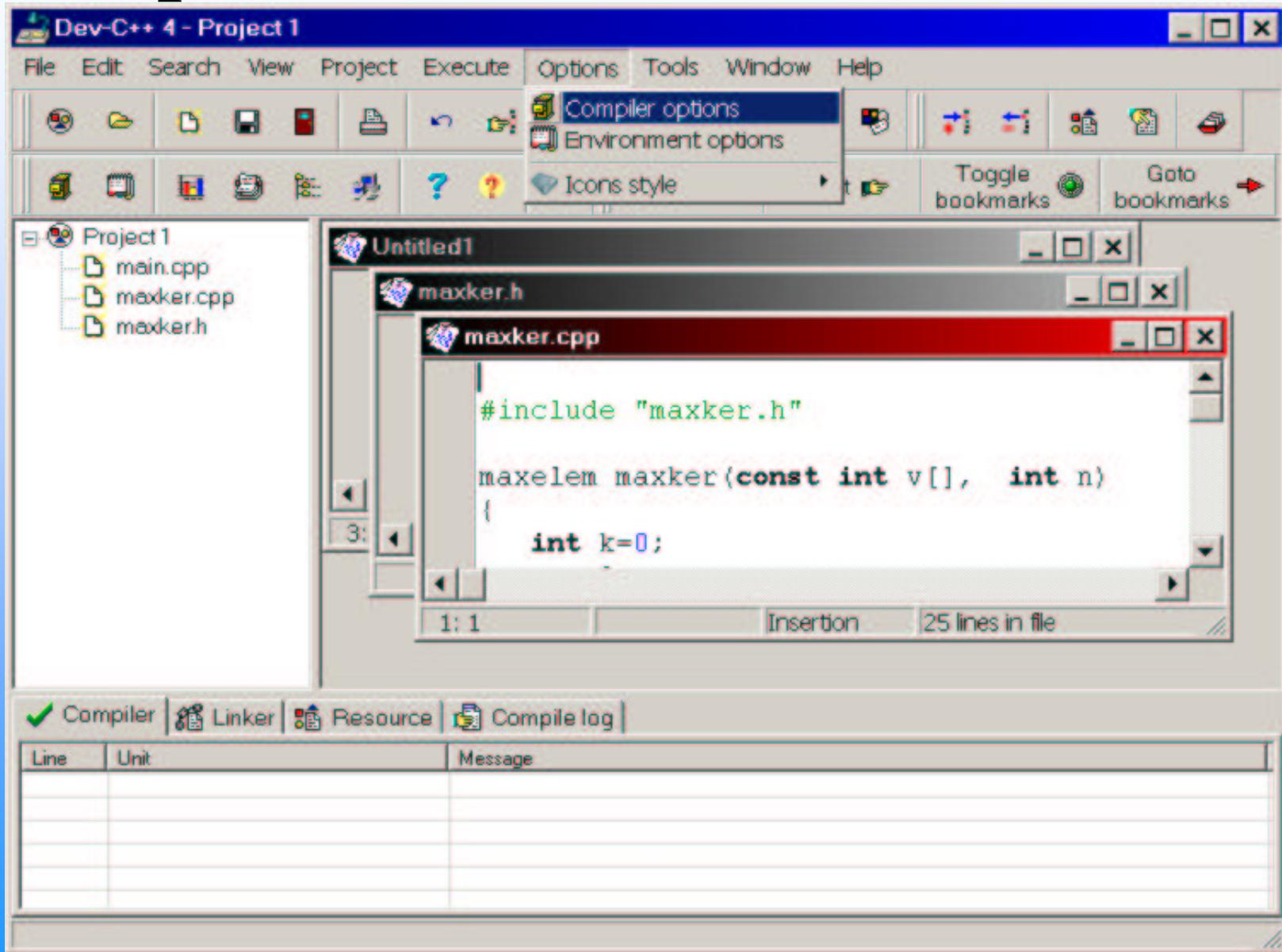
# Projekt menü



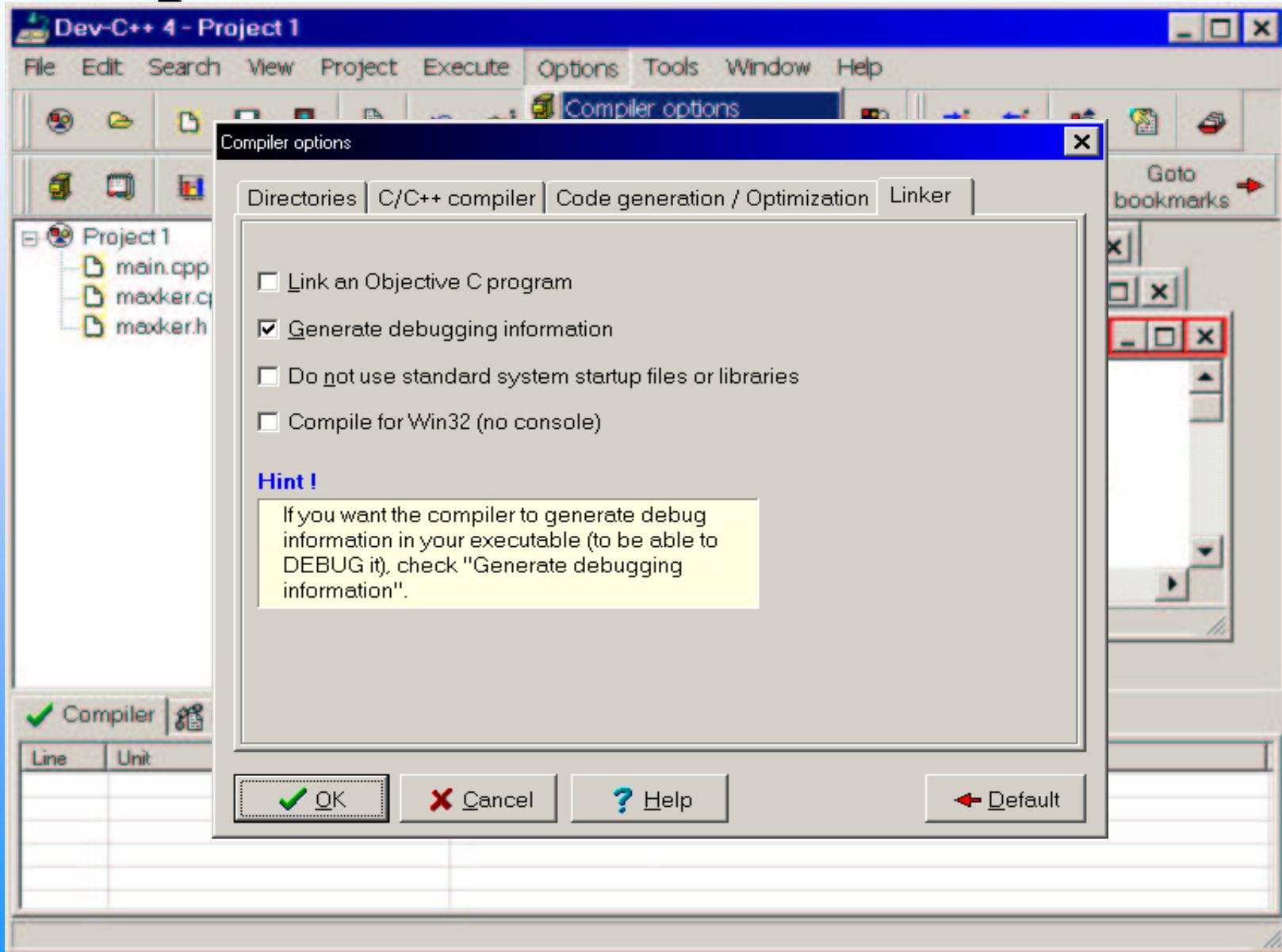
# Execute menü



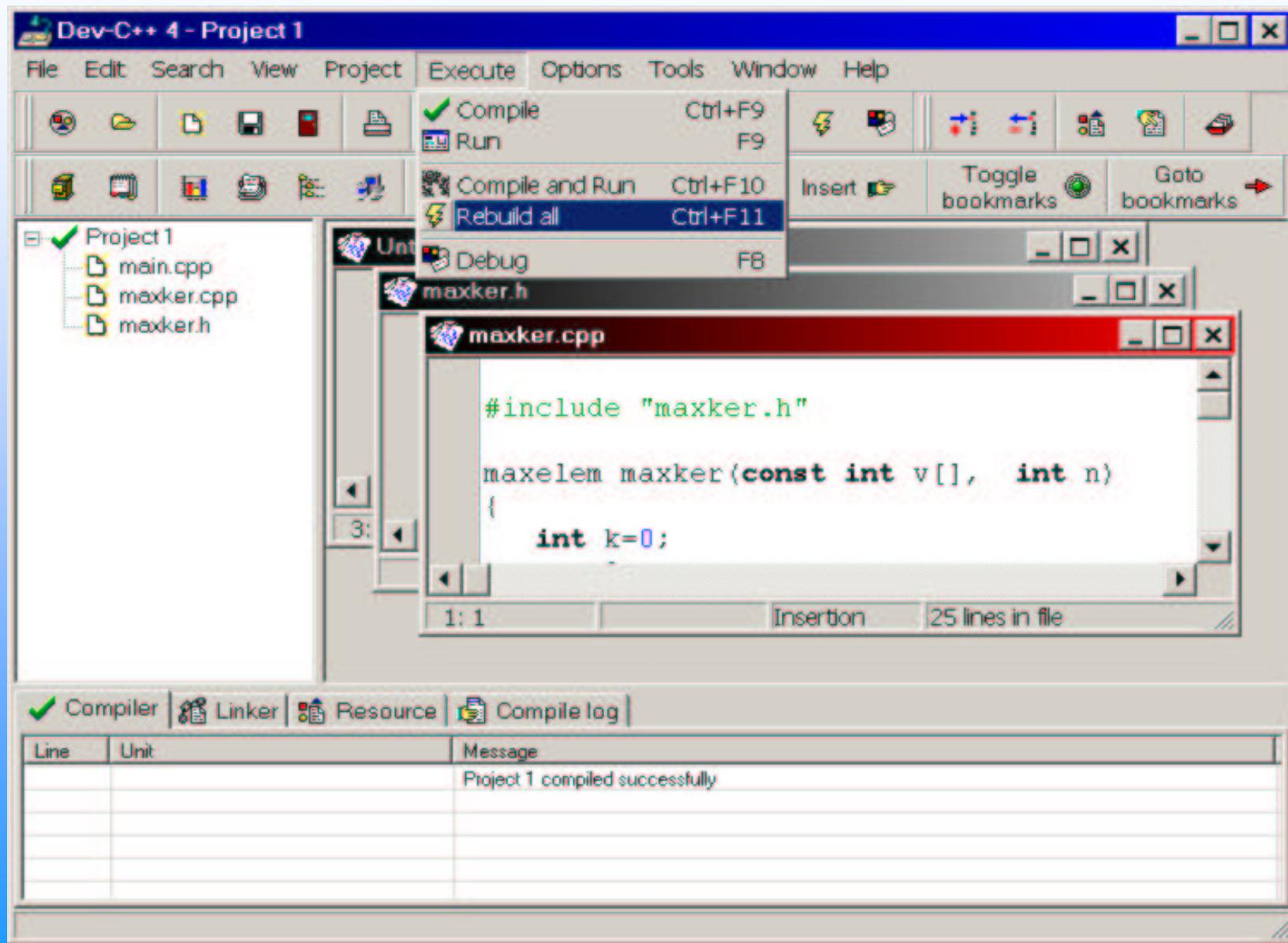
# Nyomkövetés használat bekapcsolása



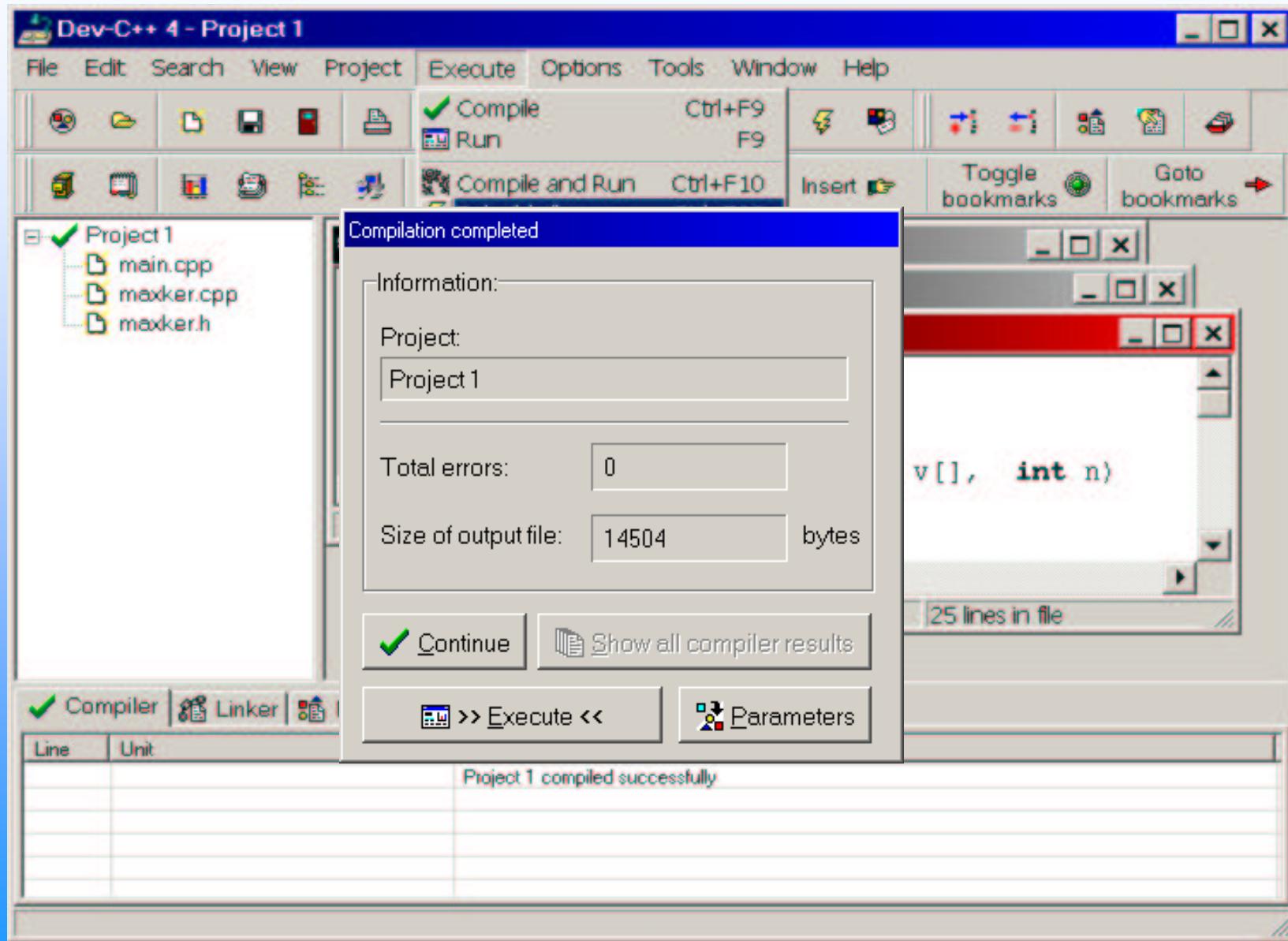
# Nyomkövetés használat bekapcsolása



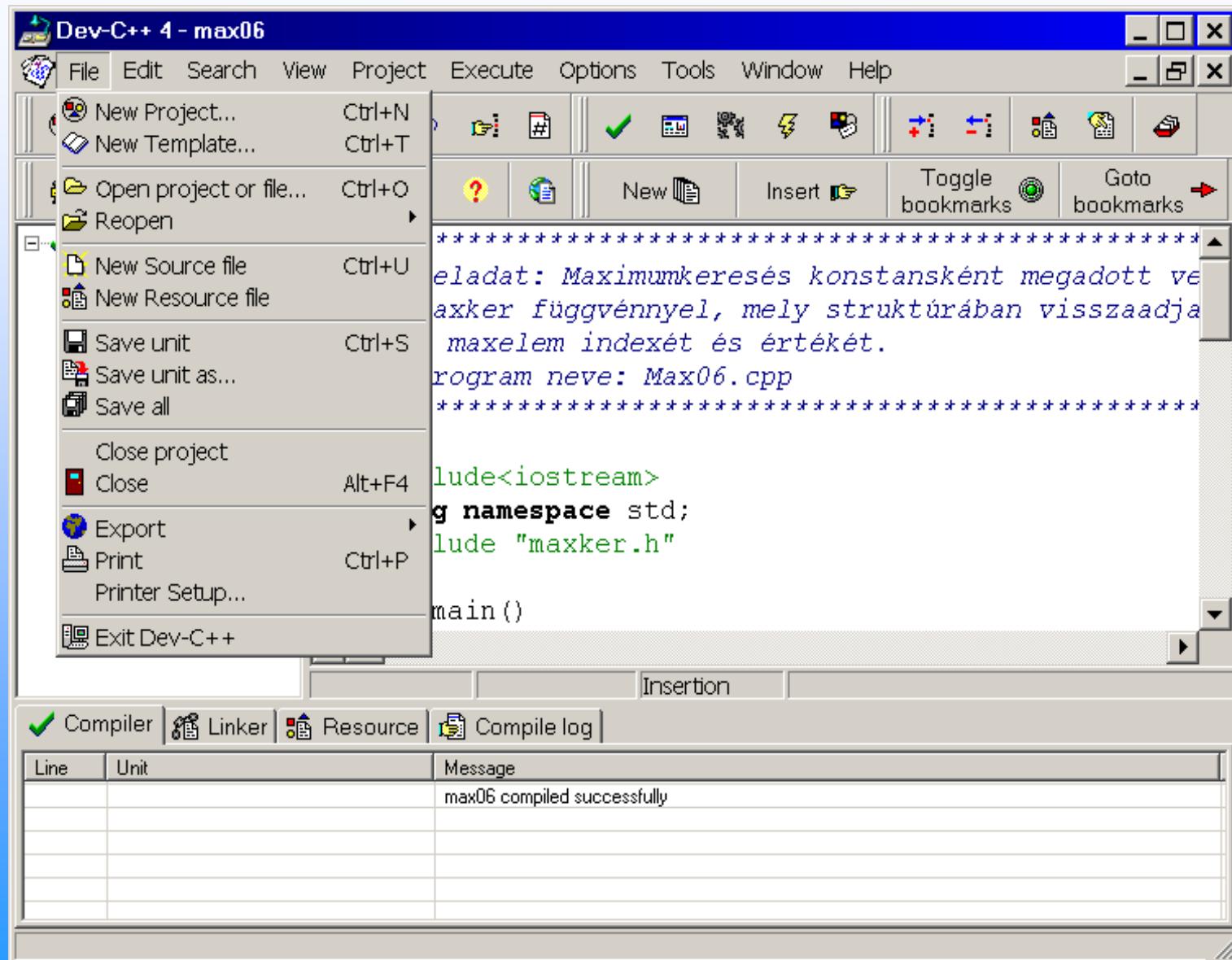
# Fordítás és újraépítés



# Fordítás és újraépítés



# File menü



# Fordítási hiba

The screenshot shows the Dev-C++ 4 IDE interface. The title bar reads "Dev-C++ 4 - max06 - [main.cpp]". The menu bar includes File, Edit, Search, View, Project, Execute, Options, Tools, Window, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and Execute. Below the toolbar is another row of icons for search, help, and navigation. The project tree on the left shows a folder named "max06" containing "main.cpp", "maxker.cpp", and "maxker.h". The code editor window displays the following C++ code:

```
//Adatok előkészítése és megjelenítése
//char barmi;
const int v[]={4,7,0,9,6,7,9,4};
const int n=sizeof(v)/sizeof(v[0]);

cout << "A vektor elemei: ";
for (int j=0; j!=n; j++){
    cout << v[j];
    if (j != (n-1))
        cout << ", ";
    else
```

The code editor status bar indicates line 6, column 15, insertion mode, and 38 lines in the file. Below the code editor is a tab bar with "Compiler" selected, followed by Linker, Resource, and Compile log. The Compiler tab shows the following errors in the log table:

Line	Unit	Message
35	main.cpp	'barmi' undeclared (first use this function)
35	main.cpp	(Each undeclared identifier is reported only once
35	main.cpp	for each function it appears in.)
35	p:\app	'bl()m:x'

# A fordítás outputja (log)

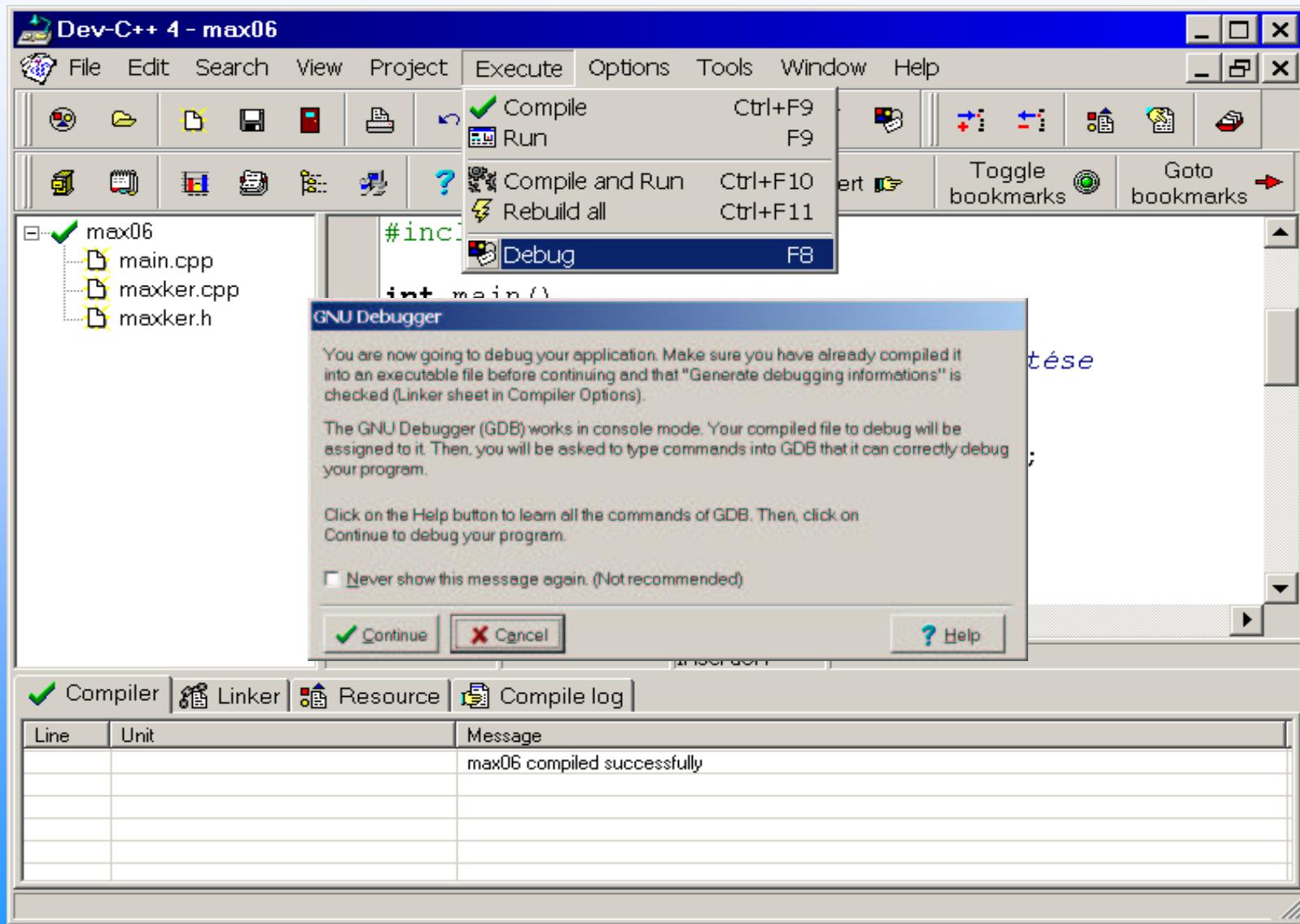
The screenshot shows the Dev-C++ 4 IDE interface. The title bar reads "Dev-C++ 4 - max06". The menu bar includes File, Edit, Search, View, Project, Execute, Options, Tools, Window, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and Execute. The project tree on the left shows a folder named "max06" containing three files: "main.cpp", "maxker.cpp", and "maxker.h". The main code editor window displays the following C++ code:

```
{  
    //Adatok előkészítése és megjelenítése  
    //char barmi;  
    const int v[]={4,7,0,9,6,7,9,4};  
    const int n=sizeof(v)/sizeof(v[0]);  
  
    cout << "A vektor elemei: ";  
    for (int j=0; j!=n; j++){  
        cout << v[j];  
        if (j != (n-1))  
            cout << ", ";  
        else
```

The bottom panel features tabs for Compiler, Linker, Resource, and Compile log. The Compiler tab is selected. The Compile log tab is highlighted with a red border and shows the command line used for compilation:

```
Building resource file...  
Compiling files:  
C:\PROGRA~1\DEV-C_~1\Bin\g++ "c:\cpp4\new\max06\main.cpp" "c:\cpp4\new\max06\maxker.cpp" -c-ggdb -IC:\
```

# Nyomkövetés



# Nyomkövetés

The screenshot shows the Dev-C++ 4 IDE interface. The title bar reads "Dev-C++ 4 - max06". The menu bar includes File, Edit, Search, View, Project, Execute, Options, Tools, Window, and Help. The toolbar has icons for file operations like Open, Save, and Print. The source code window is titled "main.cpp - Source Window" and contains the following C++ code:

```
4 /* a maxelem indexét és értékét.
5 /* Program neve: Max06.cpp
6 //*****maxelem*****
7
8 #include<iostream>
9 using namespace std;
10 #include "maxker.h"
11
12 int main()
13 {
14     //Adatok előkészítése és megjelenítése
15     char barmi;
16     const int v[]={4,7,0,9,6,7,9,4};
17     const int n=sizeof(v)/sizeof(v[0]);
18
19     cout << "A vektor elemei: ";
```

The code defines a vector of integers and prints its elements. The line "const int v[]={4,7,0,9,6,7,9,4};" is highlighted in blue. The status bar at the bottom says "Program not running. Click on run icon to start." The tabs at the bottom show "main.cpp" and "SOURCE".

# Nyomkövetés

The screenshot shows a debugger interface with two main windows. The top window is a 'Source Window' titled 'main.cpp - Source Window'. It displays the following C++ code:

```
10 #include "maxker.h"
11
12 int main()
13 {
14     //Adatok előkészítése és megjelenítése
15     char barmi;
16     const int v[] = {4, 7, 0, 9, 6, 7, 9, 4};
17     const int n = sizeof(v);
18
19     cout << "A vektor el";
20     for (int j = 0; j != n;
21         cout << v[j];
22         if (j != (n-1))
23             cout << ", ";
24         else
25             cout << ".\n";
```

The line 16 is highlighted in green, indicating it is currently being executed. The bottom window is a 'Local Variables' window, which lists the current values of variables:

Name	Value
barmi	0 '\000'
v	int [8]
n	2013313764
elem	maxelem (...)

A status bar at the bottom left says 'Program stopped at line 16'. The bottom right corner shows the file name 'main.cpp'.

VÉGE