

Napredno programiranje i programski jezici

01 Uvod

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Prethodno predavanje

C → C++

osnovna struktura programa

```
#include <iostream>

using namespace std;

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

    int x = 5;
    cout << "x = " << x << endl;

    return 0;
}
```

```
int main()
{
    cout << "Hello world!" << endl;

    int x = 5;
    int x;
    cout << "x = " << x;

    return 0;
}
```

Šta će biti ispisano?

```
int main()
{
    cout << "Hello world!" << endl;

    int x = 5;
    int x;
    cout << "x = " << x;

    return 0;
}
```

```
Hello world!
x = 4309758
```

KOMENTARI

```
int main()
{
    // cout << "Hello world!" << endl;

    /*
        int x = 5;
        cout << "x = " << x << endl;
    */

    return 0;
}
```

/* višelinijski komentar */ C
// jednolinijski komentar C++

ULAZ

```
int main()
{
    int x = 5;
    cout << "x = " << x << endl;

    cin >> x;
    cout << "x = " << x << endl;

    return 0;
}
```

```
x = 5
3
x = 3

Process returned 0 (0x0)  execution time : 7.466 s
Press any key to continue.
```

ZADATAK

Napisati program koji izračunava zbir dva broja.

ZADATAK

Napisati program koji izračunava zbir dva broja.

1. Deklaracija promenljivih
2. Učitavanje njihovih vrednosti
3. Izračunavanje zbira
4. Ispis rezultata

```
int main()
{
    int x, y;

    cout << "Unesite brojeve... " << endl;
    cin >> x >> y;

    cout << "x = " << x << endl;
    cout << "y = " << y << endl;

    int zbir = x + y;
    cout << "x + y = " << zbir << endl;

    return 0;
}
```

```
int main()
{
    int x, y;

    cout << "Unesite brojeve... " << endl;
    cin >> x >> y;

    cout << "x = " << x << endl;
    cout << "y = " << y << endl;

    int zbir = x + y;
    cout << "x + y = " << zbir << endl;

    return 0;
}
```

```
int main()
{
    int x, y, zbir;

    cout << "Unesite brojeve... " << endl;
    cin >> x >> y;

    cout << "x = " << x << endl;
    cout << "y = " << y << endl;

    zbir = x + y;
    cout << "x + y = " << zbir << endl;

    return 0;
}
```

```
int main()
{
    int x, y;

    cout << "Unesite brojeve... " << endl;
    cin >> x >> y;

    cout << "x = " << x << endl;
    cout << "y = " << y << endl;

    int zbir = x + y;
    cout << "x + y = " << zbir << endl;

    return 0;
}
```

```
int main()
{
    int x, y;

    cout << "Unesite brojeve... " << endl;
    cin >> x >> y;

    cout << "x = " << x << endl;
    cout << "y = " << y << endl;

    zbir = x + y;
    cout << "x + y = " << xbir << endl;

    return 0;
}
```

PREVOĐENJE, IZVRŠAVANJE

- PJ definicija VS prevođenje programa napisanih u PJ
- kompjajler, interpreter
- **gcc**, clang, MSVC,...
- ekstenzija **.cpp** (.hpp)

```
$ gcc -o helloworld source.cpp  
$ ./helloworld
```

MI: više fajlova, složeniji projekti

The screenshot shows the Code::Blocks IDE interface. The title bar reads "main.cpp (Test) - Code::Blocks 16.01". The menu bar includes File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, DoxyBlocks, Settings, Help. The toolbar has icons for file operations like Open, Save, Build, Run, and Debug. The left sidebar shows a "Management" panel with "Projects" tab selected, displaying "Workspace" and three projects: "Test", "Test2", and "Test3". The main code editor window is titled "main.cpp" and contains the following C++ code:

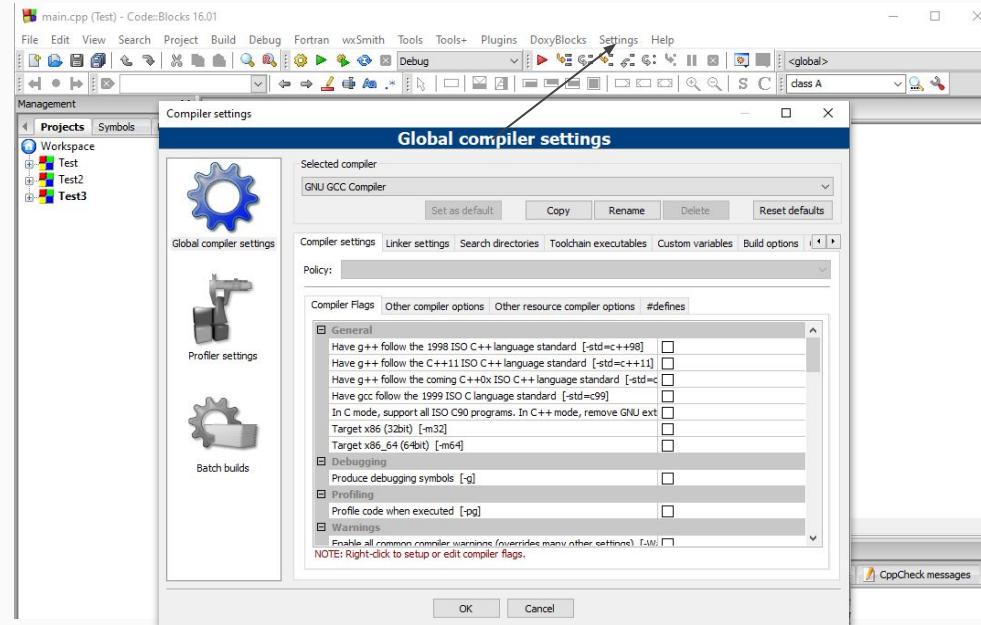
```
1 #include <iostream>
2
3 using namespace std;
4
5 int main()
6 {
7     int x = 5;
8     cout << "x = " << x << endl;
9
10    cin >> x;
11    cout << "x = " << x << endl;
12
13    return 0;
14 }
15
```

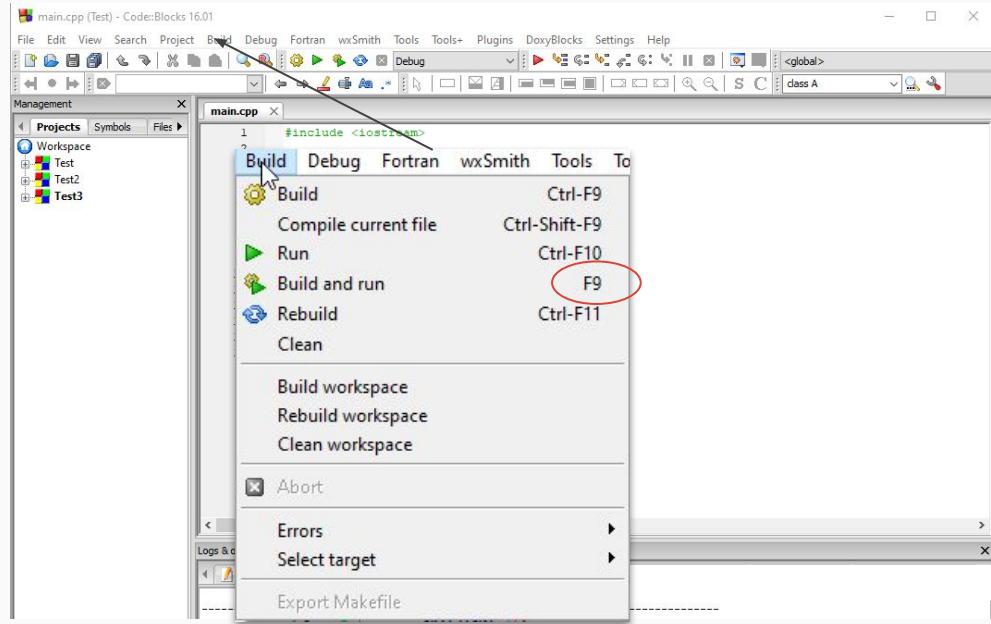
The bottom status bar shows "Logs & others" and the build message: "----- Build: Debug in Test3 (compiler: GNU GCC Compiler) -----".

Code::Blocks

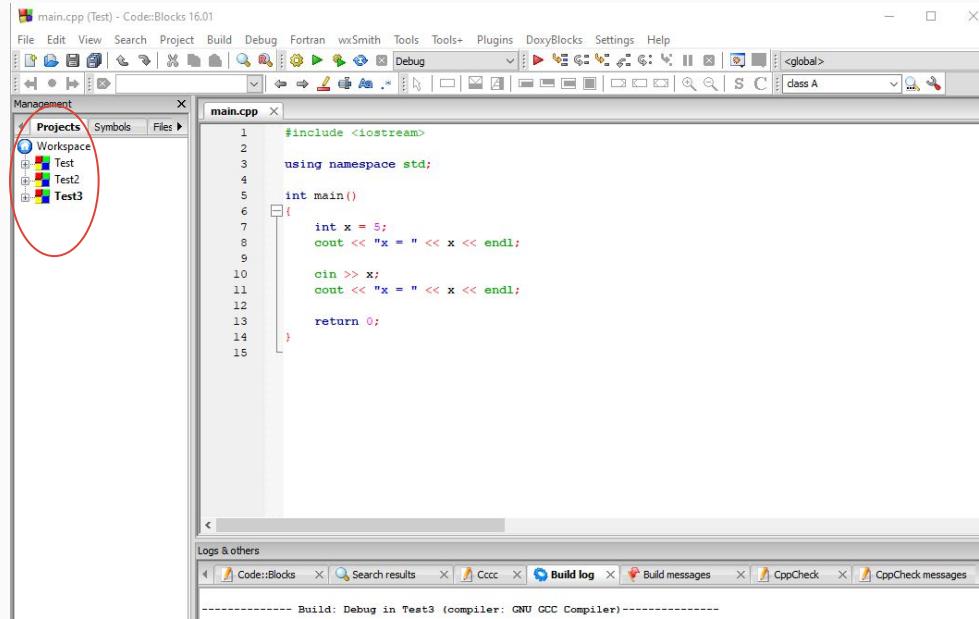
IDE

Integrated Development Environment





Projekt



The screenshot shows the Code::Blocks IDE interface. A red circle highlights the 'Projects' tab in the left-hand navigation bar, which is currently active. Below it, the 'Workspace' section lists three projects: 'Test', 'Test2', and 'Test3'. The 'main.cpp' file for the 'Test3' project is open in the main code editor window. The code contains a simple C++ program that reads an integer from standard input and prints it to standard output. The 'Logs & others' panel at the bottom shows a build log for 'Test3' using the GNU GCC Compiler.

```
#include <iostream>
using namespace std;
int main()
{
    int x = 5;
    cout << "x = " << x << endl;
    cin >> x;
    cout << "x = " << x << endl;
    return 0;
}
```

Logs & others

----- Build: Debug in Test3 (compiler: GNU GCC Compiler) -----

The screenshot shows the Code::Blocks IDE interface. The top window displays the code file `main.cpp` with the following content:

```
1 #include <iostream>
2
3 using namespace std;
4
5 int main()
6 {
7     int x;
8     cout << "x = " << x << endl;
9
10    return 0;
11 }
```

The bottom window, titled "Logs & others", shows the "Build messages" tab with the following output:

File	Line	Message
Nastava\FTN NP...	8	==== Build: Debug in Test (compiler: GNU GCC Compiler) ==== In function 'int main()': warning: 'x' is used uninitialized in this function [-Wuninitialized] ==== Build finished: 0 error(s), 1 warning(s) (0 minute(s), 1 second(s)) ===

Obratiti pažnju na upozorenja!

The screenshot shows the Code::Blocks IDE interface. The top window displays the code file `main.cpp` with the following content:

```
1 #include <iostream>
2
3 using namespace std;
4
5 int main()
6 {
7     int x;
8     cout << "x = " << y << endl;
9
10    return 0;
11 }
```

The code editor has syntax highlighting and a vertical line indicating the current cursor position. Below the code editor is a tab bar labeled "Logs & others" which includes tabs for "Code::Blocks", "Search results", "Cccc", "Build log", "Build messages" (which is currently selected), and "CppCheck". The "Build messages" tab displays the following output:

File	Line	Message
Nastava\FTN NP...	8	error: 'y' was not declared in this scope
Nastava\FTN NP...	7	warning: unused variable 'x' [-Wunused-variable]
		==== Build failed: 1 error(s), 1 warning(s) (0 minute(s), 0 second(s)) ===

NABROJIVI TIP PODATAKA

```
enum dani { PON, UT, SRE, CET, PET, SUB, NED };  
enum boje { CRVENA, PLAVA, ZELENA };
```