

Napredno programiranje i programski jezici

01 Uvod

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Prethodno predavanje

$C \rightarrow C++$

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.

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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;

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

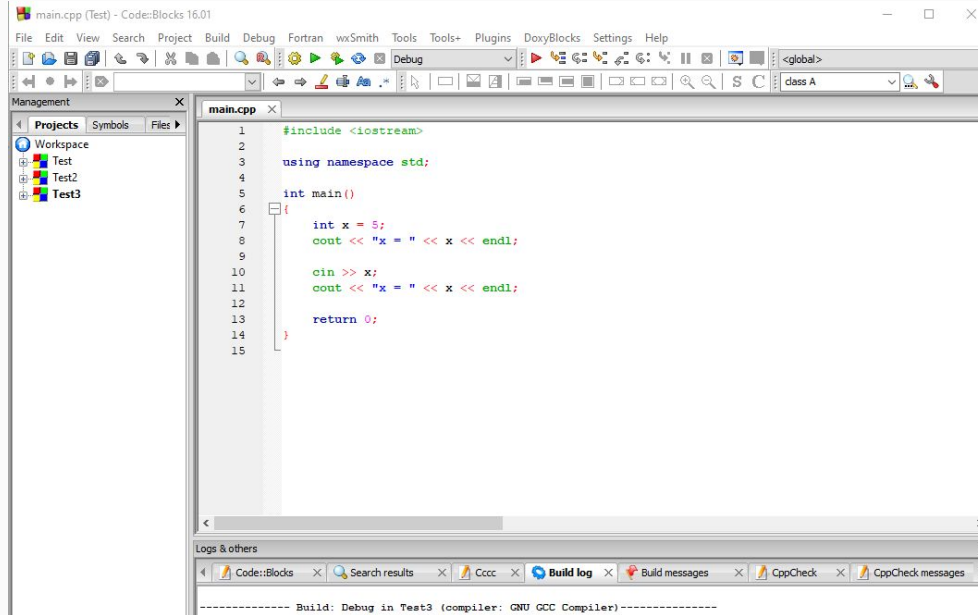
    return 0;
}
```

PREVOĐENJE, IZVRŠAVANJE

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

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

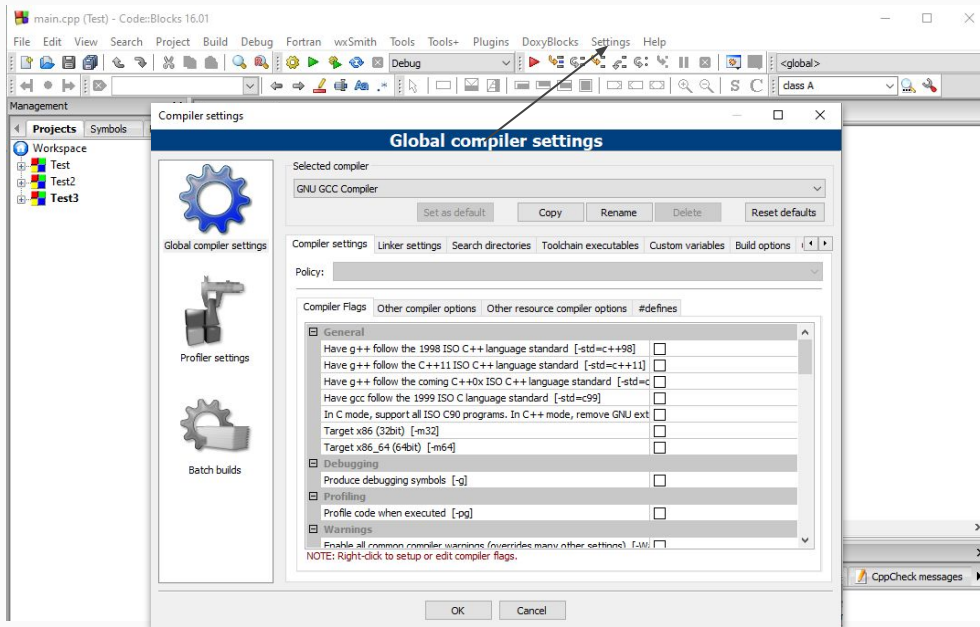
MI: više fajlova, složeniji projekti

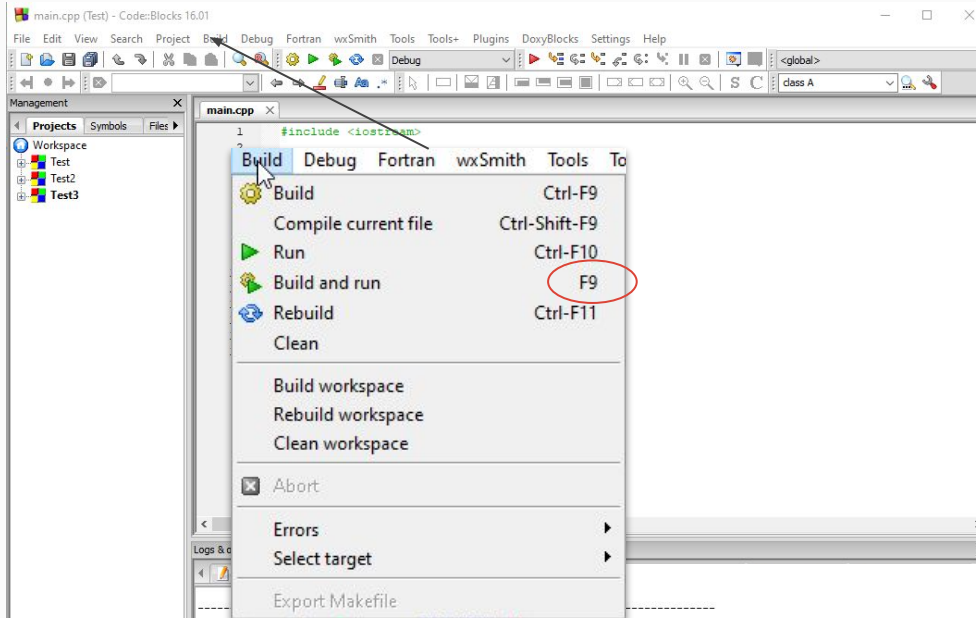


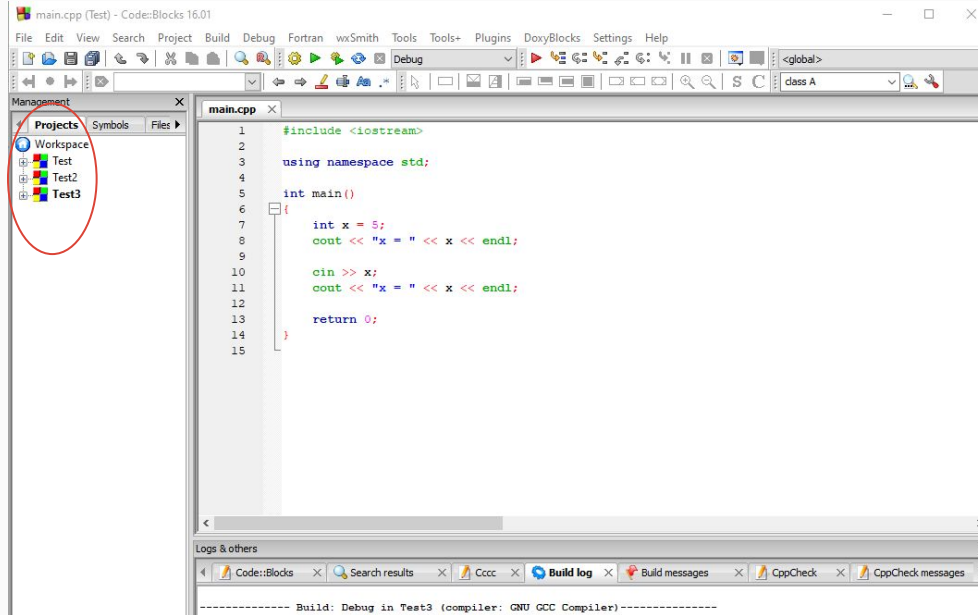
Code::Blocks

IDE

Integrated Development Environment







Projekti

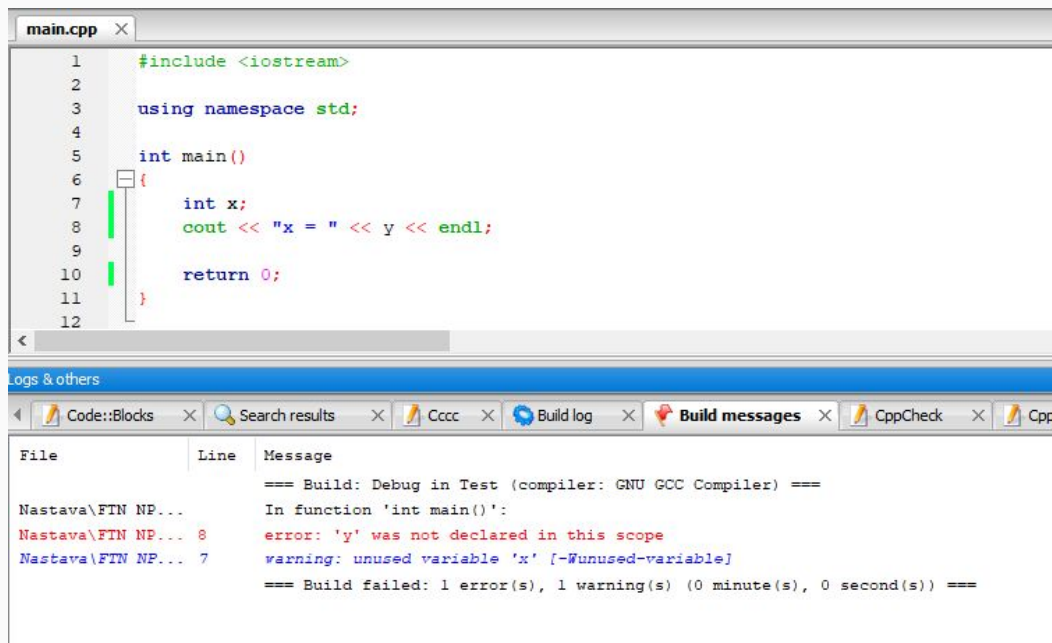
The screenshot shows a C++ IDE with a file named `main.cpp`. The code is as follows:

```
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 }
12
```

Below the code editor, there is a panel titled "logs & others" with several tabs: "Code::Blocks", "Search results", "Cccc", "Build log", "Build messages", "CppCheck", and "Cp". The "Build messages" tab is active, displaying the following output:

File	Line	Message
		=== Build: Debug in Test (compiler: GNU GCC Compiler) ===
Nastava\FTN NP...		In function 'int main()':
Nastava\FTN NP... 8	8	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 a C++ IDE with a code editor and a console window. The code editor displays a C++ program in `main.cpp` with line numbers 1 through 12. The program includes `<iostream>`, uses the `std` namespace, and defines a `main` function. Inside `main`, it declares `int x`, prints `"x = " << y << endl`, and returns 0. The console window, titled "Logs & others", shows the build output for "Build messages". The output indicates a debug build using GNU GCC Compiler. It reports an error: `'y' was not declared in this scope` at line 8, and a warning: `unused variable 'x' [-Wunused-variable]` at line 7. The build failed due to 1 error and 1 warning.

```
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 }
12
```

Logs & others

Code::Blocks Search results Cccc Build log Build messages CppCheck Cpp

File	Line	Message
=== Build: Debug in Test (compiler: GNU GCC Compiler) ===		
Nastava\FTN NP...		In function 'int main()':
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 };
```