Увод в програмирането

2: Първи програми на C++

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Съдържание

- Въвеждане на няколко основния понятия:
  - Вход и изход
  - Променливи и типове
  - Условно изпълнение
  - Цикли

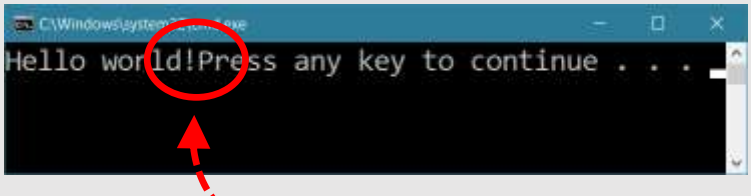
2

```cpp
#include <iostream>

using namespace std;

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

    return 0;
}
```



Нов ред?

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```cpp
#include <iostream>

using namespace std;

int main()
{
    // Извежда "Hello world!"
    cout << "Hello world!\n";

    return 0;
}
```

4

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

int main()
{
   float Fahrenheit, Celsius;

   cout << "Enter temperature in Fahrenheit: ";

   cin >> Fahrenheit; // Стандартен вход

   cout << "You entered: " << Fahrenheit << endl; // Наведнъж извеждаме
                                                  // няколко неща

   Celsius = (Fahrenheit - 32) * 5.0/9.0; // Формулата е
                                          // C = (F – 32) * 5/9

   cout << Fahrenheit << " in Fahrenheit = "
        << Celsius    << " in Celsius\n";

   return 0;
}
```

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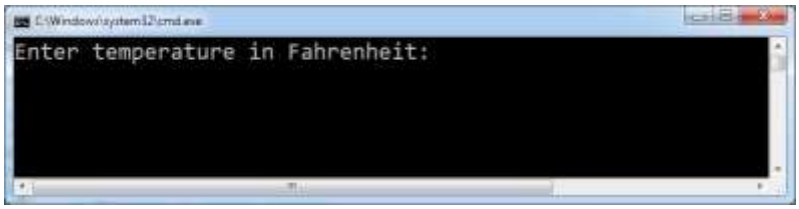
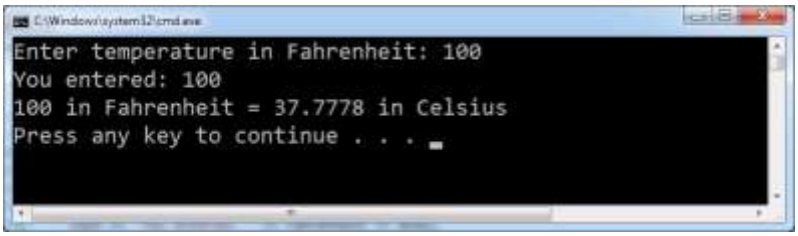
Преобразуване на градуси





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

int main()
{
    float Fahrenheit, Celsius;

    cout << "Enter temperature in Fahrenheit: ";

    cin >> Fahrenheit;

    cout << "You entered: " << Fahrenheit << endl;

    Celsius = (Fahrenheit - 32) * 5.0/9.0;

    cout << setprecision(2) << Fahrenheit << " in F = "
         << setprecision(2) << Celsius    << " in C\n";

    return 0;
}
```

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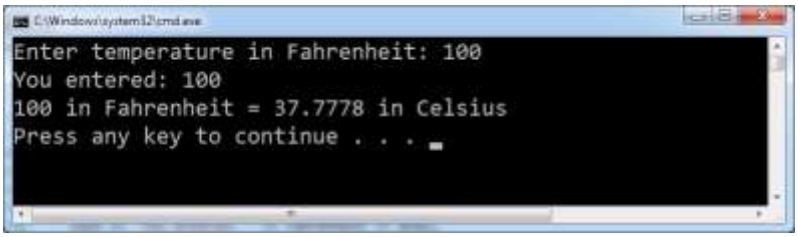
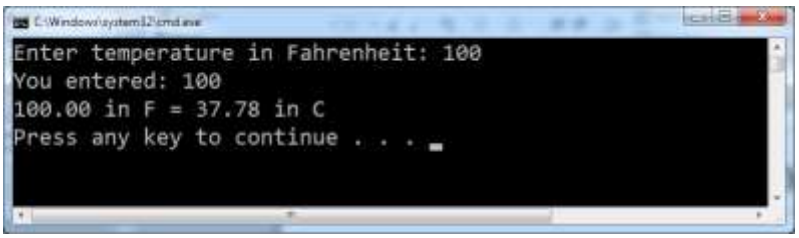
Преобразуване на градуси

Преди



Сега



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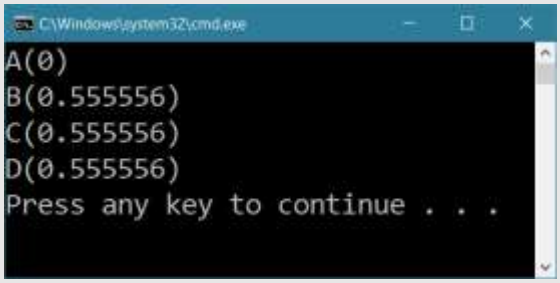
```cpp
#include <iostream>
using namespace std;

int main()
{
    float A =   5 / 9;
    float B = 5.0 / 9.0;
    float C = 5.0 / 9;
    float D =   5 / 9.0;

    cout << "A(" << A << ")\n"
         << "B(" << B << ")\n"
         << "C(" << C << ")\n"
         << "D(" << D << ")\n";

    return 0;
}
```



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

int main()
{
    float Temperature, Result;
    char ConversionType;

    cout << "Convert to (C)elsius or (F)ahrenheit: ";
    cin >> ConversionType;

    cout << "Enter temperature: ";
    cin >> Temperature;

    if(ConversionType == 'F')
        Result = Temperature * 9.0/5.0 + 32;
    else
        Result = (Temperature - 32) * 5.0/9.0;

    cout << "Converted temperature is "
         << setprecision(2) << Result << ConversionType
         << endl;

    return 0;
}
```

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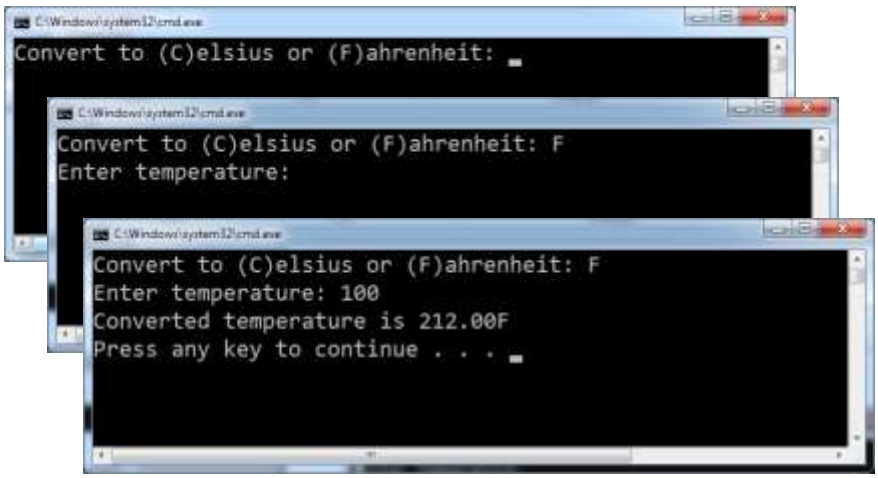
Контрол на изпълнението



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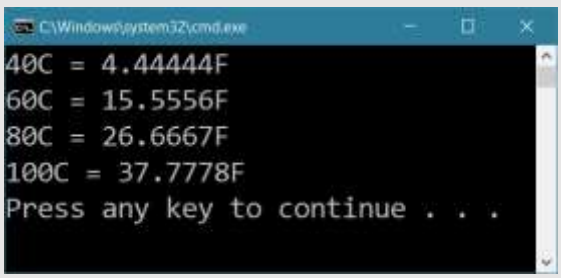
```
#include <iostream>
using namespace std;

int main()
{
    int Start = 0;
    int End = 100;
    int Step = 20;

    int Current = Start;

    while(Current <= End)
    {
        cout << Current << "C = "
             << ((Current - 32) * 5.0/9.0) << "F"
             << endl;

        Current = Current + Step;
    }

    return 0;
}
```



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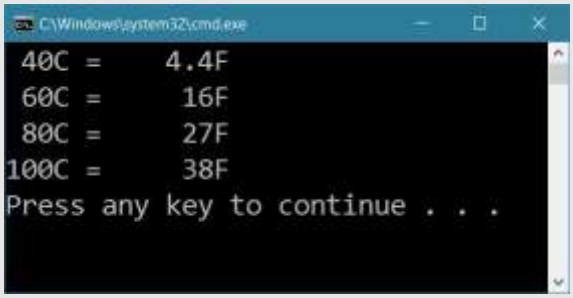
```cpp
#include <iostream>
#include <iomanip>

using namespace std;

int main()
{
	int Start = 0;
	int End = 100;
	int Step = 20;

	int Current = Start;

	while(Current <= End)
	{
		cout << setw(3) << Current << "C = "
		     << setw(6) << setprecision(2)
		     << ((Current - 32) * 5.0/9.0)
		     << "F" << endl;

		Current = Current + Step;
	}

	return 0;
}
```



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