



S.P.M College, Udantpuri

Bachelor Of Computer Application (BCA)

Part -1 (Paper-1)

– Hira Kumar

❖ **Goal:** Set up your environment and write your first C++ program.

➤ **Install a C++ Compiler / IDE →** You need a place to write and run your code. Choose one:

- **Windows:** Code::Blocks, Dev C++, VS Code with C++ extension
- **Mac/Linux:** VS Code or terminal with g++ installed
- **Online (no install):** Replit, OnlineGDB, GeeksforGeeks IDE
- **Android :** Termux, Cxxdroid, Coding C++

❖ **Use IDE – Codeblock**



Code::Blocks

1. Step 1.

Download Link -

<https://sourceforge.net/projects/codeblocks/files/Binaries/25.03/Windows/codeblocks-25.03mingw-setup.exe>



Microsoft Windows (64 bit, default)

File	Download from
codeblocks-25.03-setup.exe	Sourceforge.net or dAppCDN.com
codeblocks-25.03-setup-nonadmin.exe	Sourceforge.net or dAppCDN.com
codeblocks-25.03-nosetup.zip	Sourceforge.net or dAppCDN.com
codeblocks-25.03mingw-setup.exe	Sourceforge.net or dAppCDN.com
codeblocks-25.03mingw-nosetup.zip	Sourceforge.net or dAppCDN.com

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2. Step 2.

Click → codeblocks-25.03mingw-setup.exe → Sourceforge.net

3. Step3.

Automatic Download and install carefully.

❖ Use IDE – VS Code



Visual Studio Code

- Download VS Code → <https://code.visualstudio.com/download>
- VS Code does not have a compiler, it is only a Code editor. Step 1 download any compiler e.g. – GCC/g++/MinGW, clog,.....

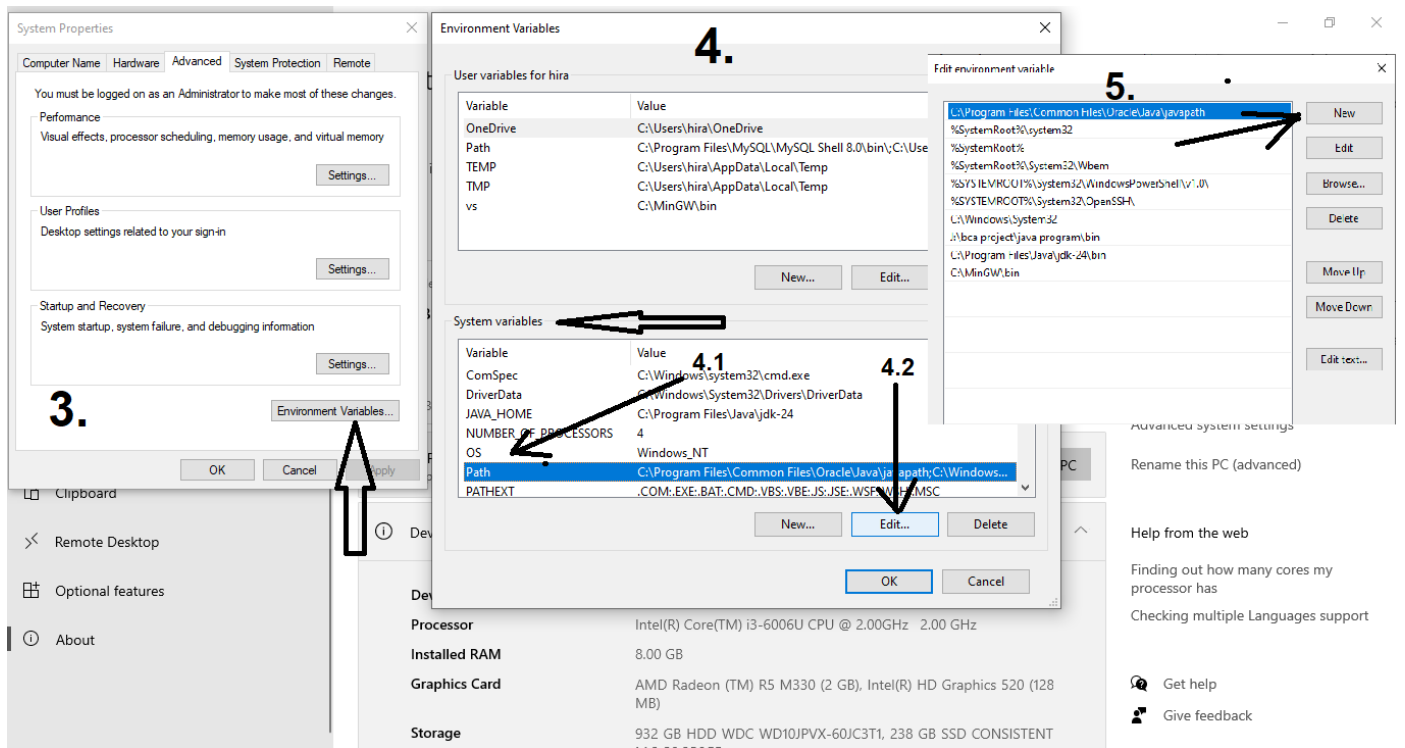
Step1 : Website → <https://www.msys2.org/>

Direct Download link → https://github.com/msys2/msys2-installer/releases/download/2025-08-30/msys2-x86_64-20250830.exe

Install Location keep on → c:\mingw64\bin

Step 2: Set Path

1. This PC → Right click → Properties (Open setting window)
2. In Setting → About → Advanced system settings
3. Choose → Environment Variables
4. In System Variables → Choose Path → and click Edit button
5. New button click and type –
C:\mingw64\bin
6. Click → ok → ok → PC restart



Step 3: Check Compiler installed or Not

1. Open Command prompt (cmd)
2. Type → `g++ --version`
3. See version then Compiler have been installed. Other wise Check again all steps.

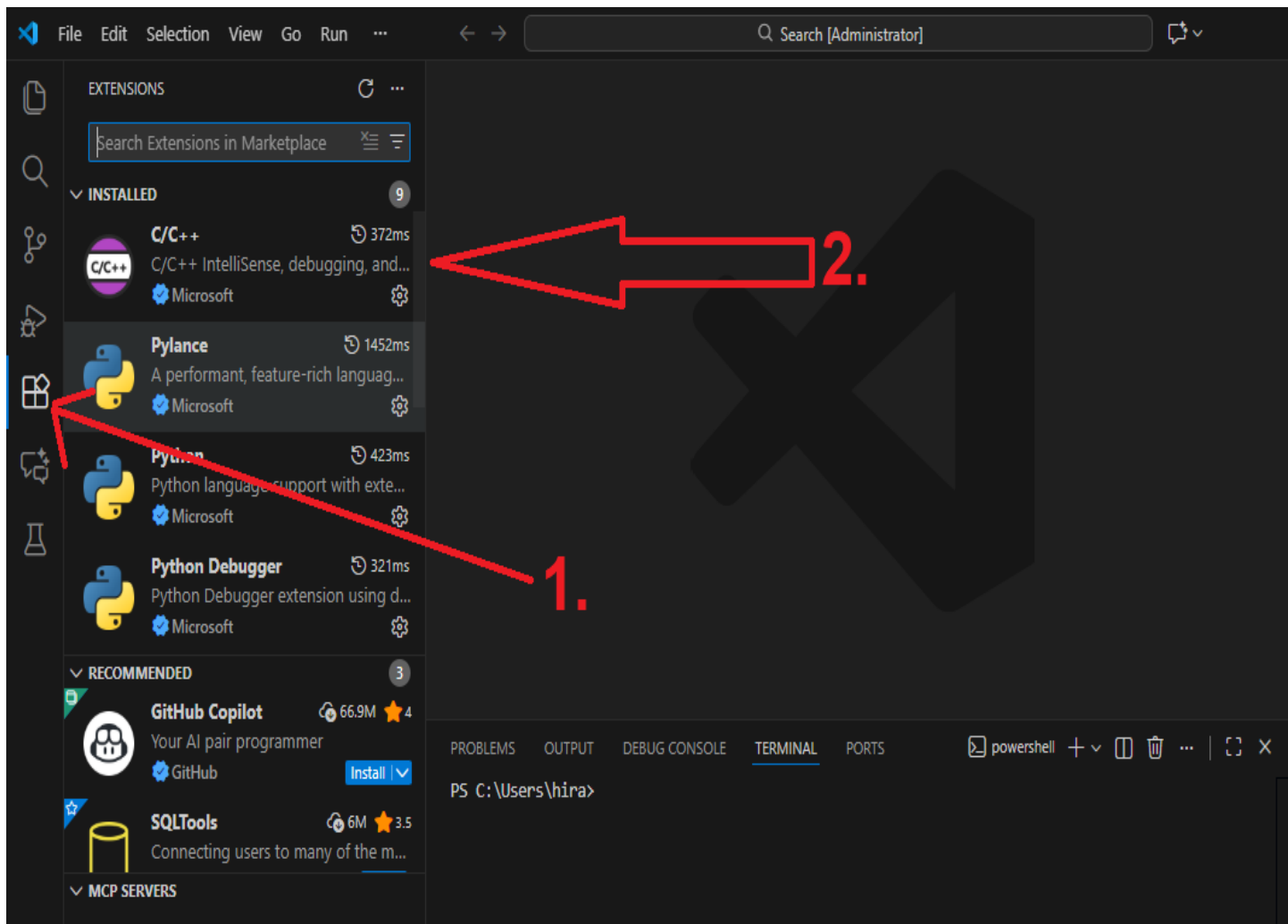
```
C:\>g++ --version
g++ (GCC) 13.2.0
Copyright (C) 2023 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

C:\>gcc --version
gcc (GCC) 13.2.0
Copyright (C) 2023 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

Now –

Step 4 : C++ extension Install in VS Code

1. Open VS Code & Left Side Extension icon OR (Ctrl + Shift + X)
2. Search → c/c++
3. Install Microsoft version extension



❖ Let's Start programming in C++

Q1. Print "Hello, World !" In C++ language.

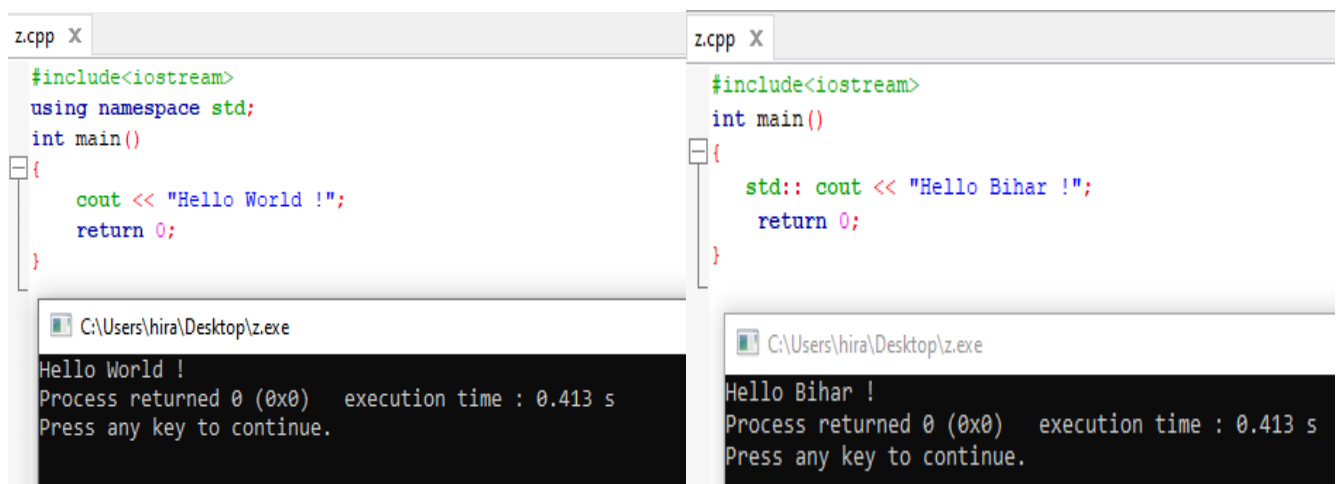
Structure of Basic C++ Program

Sl.No	Code	What is this
1.	#include<iostream>	Preprocessor Directive
2.	using namespace std;	To avoid writing std:: repeatedly
3.	int main()	Main function
4.	{	Entry Point
5.	Cout << "Hello, world !";	Output statement
6.	Return 0;	Finish/Exit program, return value 0 (0 means "Success") नये compiler return 0; optional हैं, compiler automatic return 0; मान लेती हैं
7.	}	Exit Point

Understand Each Line

SI No	Code	What is work
1.	<code>#include<iostream></code>	Include input/output functions like cin,cout
2.	<code>using namespace std;</code>	Lets you use standard names without prefix (i.e. <code>std::cout</code>) {::→Scope resolution operator}
3.	<code>int main()</code>	Every C++ program starts from here
4.	<code>{</code>	Entry point
5.	<code>Cout << "Hello, world !";</code>	Used to display output
6.	<code>Return 0;</code>	Ends the program successfully.
7.	<code>}</code>	Exit point

Screen View – Source Code with Output



```
#include<iostream>
using namespace std;
int main()
{
    cout << "Hello World !";
    return 0;
}
```

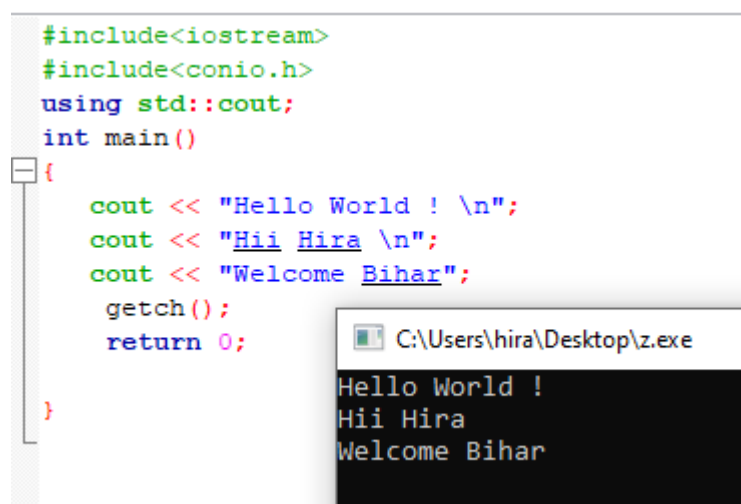
C:\Users\hira\Desktop\z.exe

Hello World !
Process returned 0 (0x0) execution time : 0.413 s
Press any key to continue.

```
#include<iostream>
int main()
{
    std::cout << "Hello Bihar !";
    return 0;
}
```

C:\Users\hira\Desktop\z.exe

Hello Bihar !
Process returned 0 (0x0) execution time : 0.413 s
Press any key to continue.



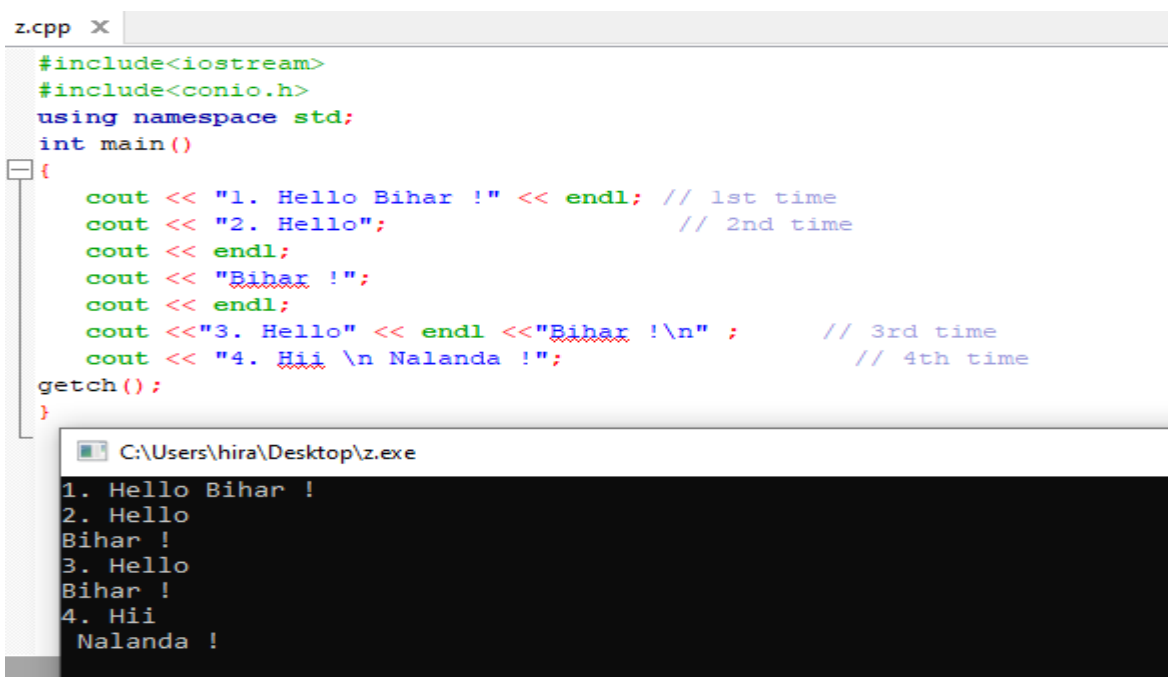
```
#include<iostream>
#include<conio.h>
using std::cout;
int main()
{
    cout << "Hello World ! \n";
    cout << "Hi Hira \n";
    cout << "Welcome Bihar";
    getch();
    return 0;
}
```

C:\Users\hira\Desktop\z.exe

Hello World !
Hi Hira
Welcome Bihar

- **\n = Escape sequence** = Use New line **OR** line change one character, but don't flush buffer memory. It's Performance is fast
- **endl = Manipulator** = Use New line insert (just like \n), but here buffer memory flush. So in c++ recommended use endl for line change. It's performance is Slow.
- **\t = 1 tab means 4 space**

Q2. Write a program and use Escape sequence(\n) and Manipulator (endl).



```
z.cpp X
#include<iostream>
#include<conio.h>
using namespace std;
int main()
{
    cout << "1. Hello Bihar !" << endl; // 1st time
    cout << "2. Hello";                // 2nd time
    cout << endl;
    cout << "Bihar !";
    cout << endl;
    cout << "3. Hello" << endl << "Bihar !\n" ; // 3rd time
    cout << "4. Hii \n Nalanda !";           // 4th time
    getch();
}
```

```
C:\Users\hira\Desktop\z.exe
1. Hello Bihar !
2. Hello
Bihar !
3. Hello
Bihar !
4. Hii
   Nalanda !
```

2. Write a program to print your name
3. Write a program to print "I'm learning C++!"
4. Write a program to print your name, age and Date of Birth(yyyymmdd). Try removing using namespace std; and update cout to std::cout
5. Write a program to print your name, age and DOB in different line. Use **cout** once/single time.

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