

BCSE202L Data Structure and Algorithm

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1. CodeBlocks + Visual Code studio set up for Running a C Program

A. Downloads Code Blocks with MinGW



Microsoft Windows

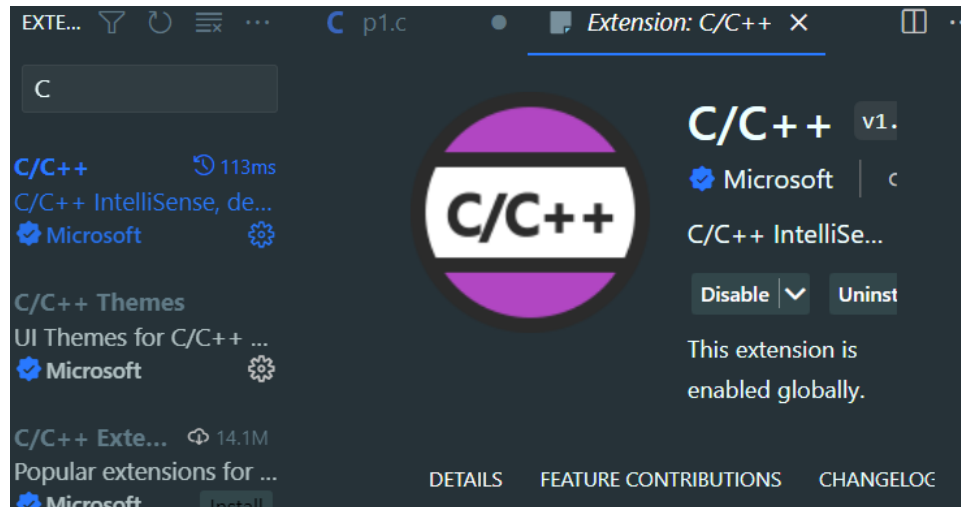
File	Download from
codeblocks-20.03-setup.exe	FossHUB or Sourceforge.net
codeblocks-20.03-setup-nonadmin.exe	FossHUB or Sourceforge.net
codeblocks-20.03-nosetup.zip	FossHUB or Sourceforge.net
codeblocks-20.03mingw-setup.exe	FossHUB or Sourceforge.net
codeblocks-20.03mingw-nosetup.zip	FossHUB or Sourceforge.net
codeblocks-20.03-32bit-setup.exe	FossHUB or Sourceforge.net
codeblocks-20.03-32bit-setup-nonadmin.exe	FossHUB or Sourceforge.net
codeblocks-20.03-32bit-nosetup.zip	FossHUB or Sourceforge.net
codeblocks-20.03mingw-32bit-setup.exe	FossHUB or Sourceforge.net
codeblocks-20.03mingw-32bit-nosetup.zip	FossHUB or Sourceforge.net

B. Install Code Blocks with MinGW

C. Add PATH C:\Program Files\CodeBlocks\MinGW\bin to to System PATH

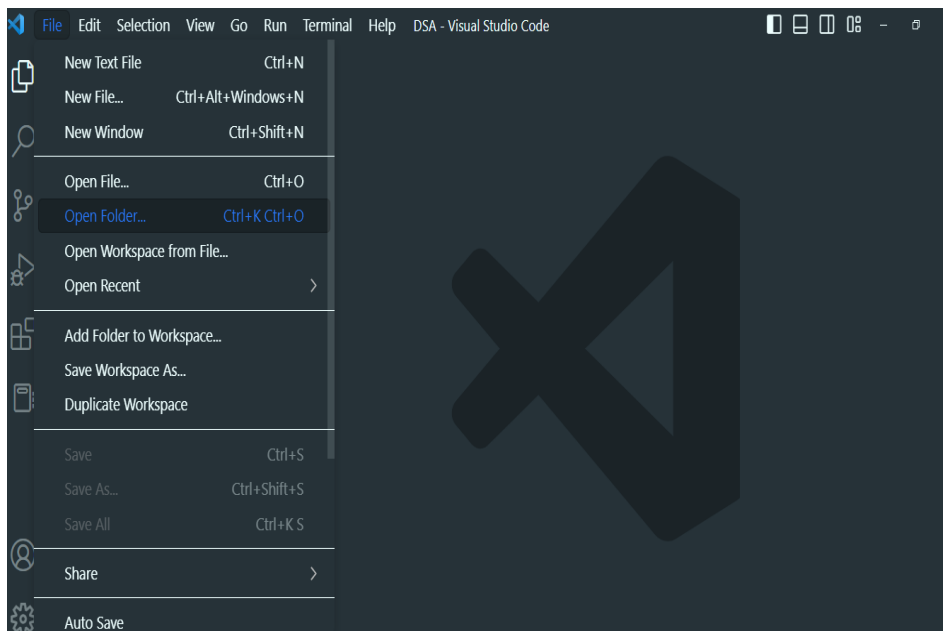
D. Open Visual code studio and do CTRL + Shift + x (to search for C/C++ Extension)

E. Install the C/C++ Microsoft Extension

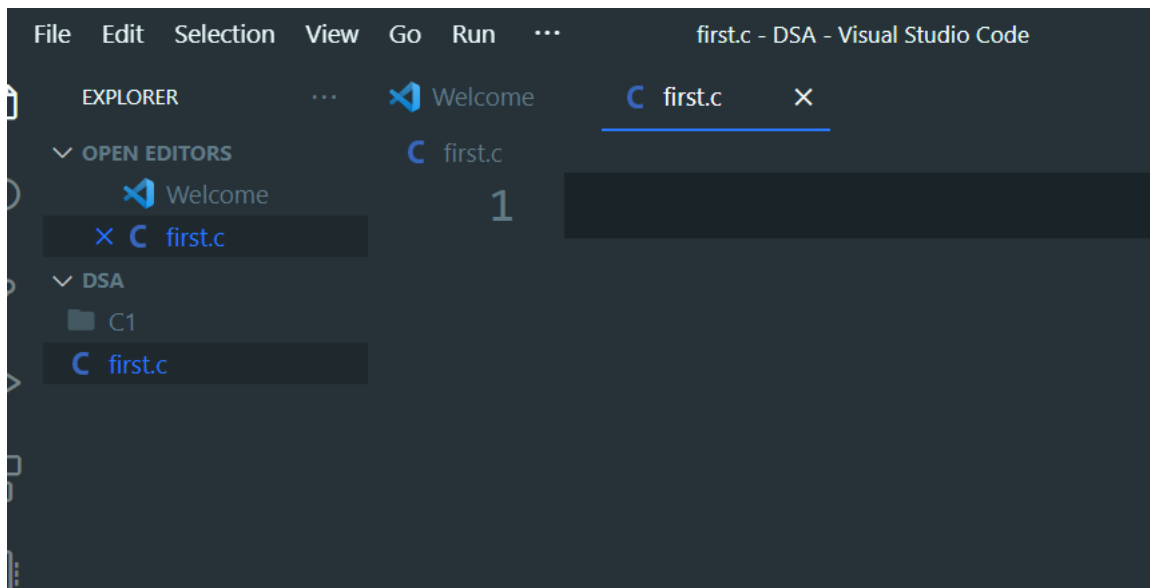
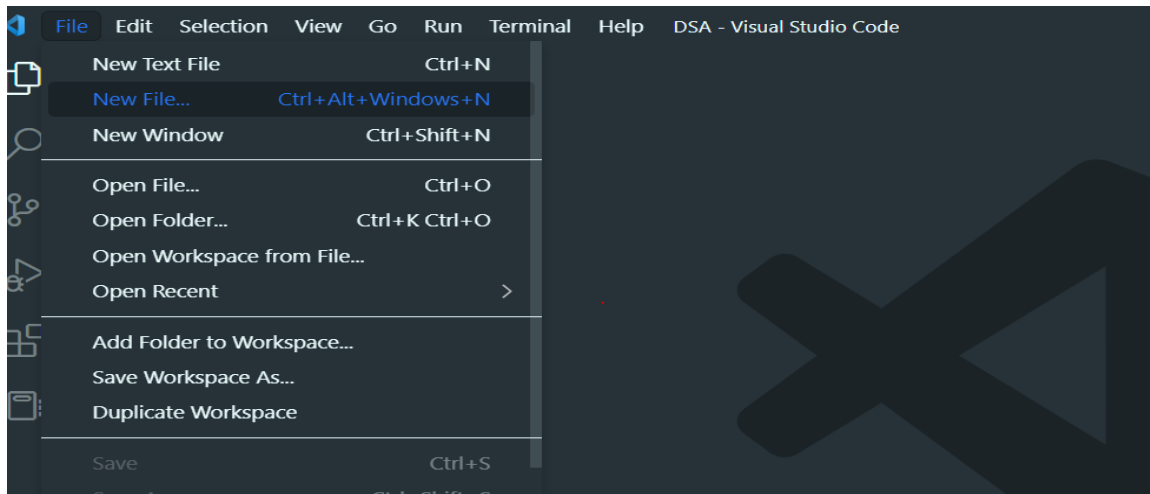


2. Running a C Program with Visual Code Studio

- A. Create a folder where you will save your C program. I am creating a folder in my D Drive, with the name **DSA**.
- B. Open Visual Code and open that folder.



- C. Click on New file and save it as first.c



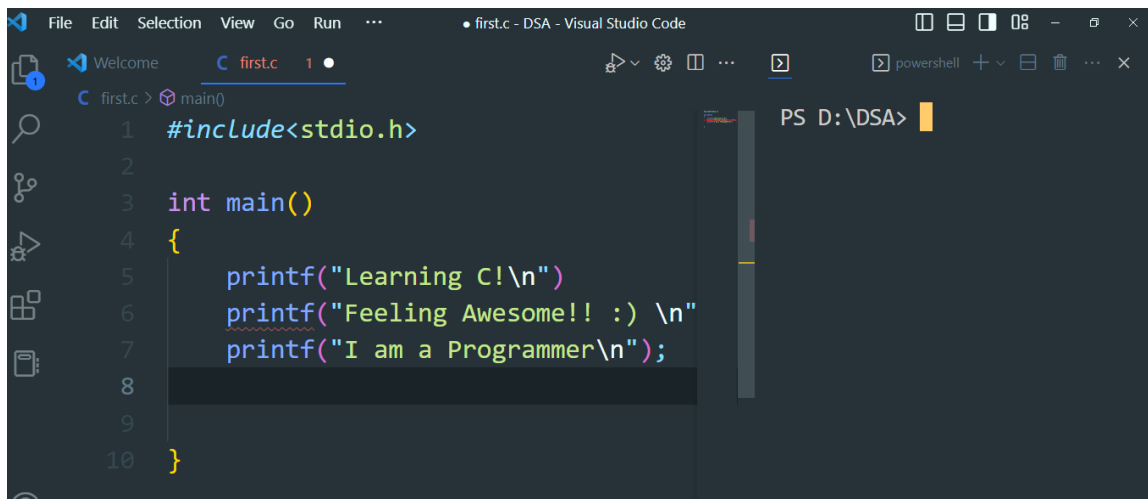
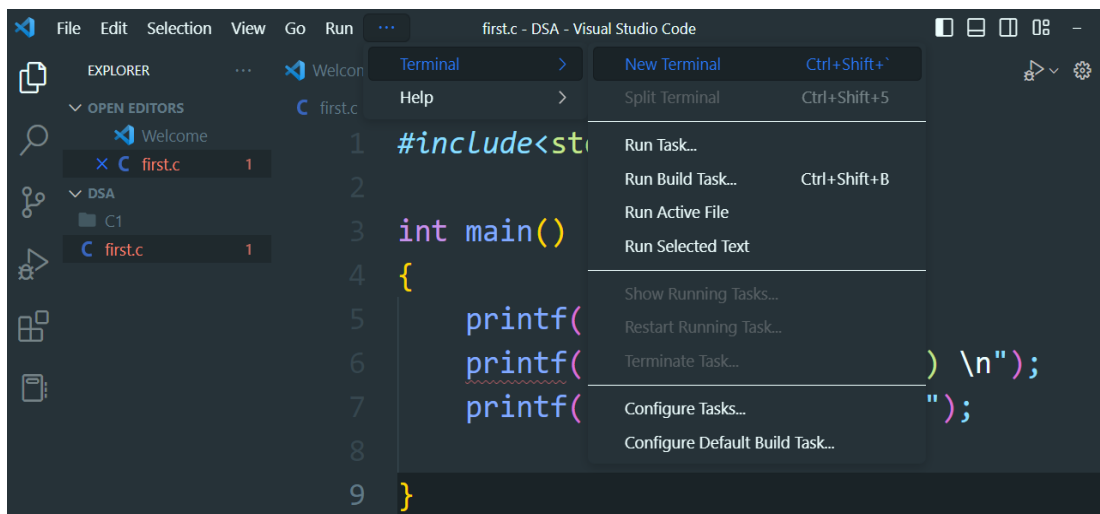
D. Write a sample a program as below and save it using (CTRL+S) :



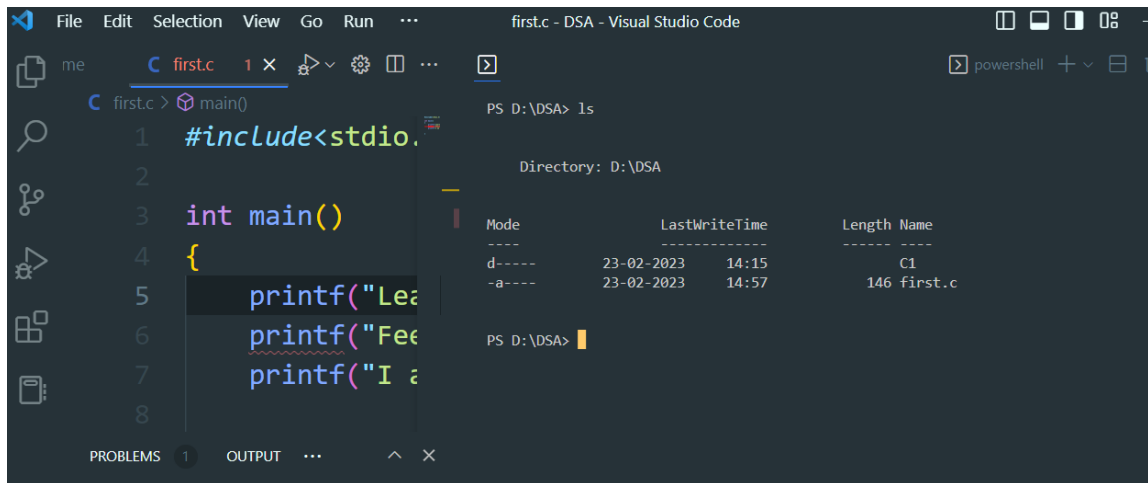
The screenshot shows the Visual Studio Code editor with a file named `first.c` open. The code is a simple C program that prints three lines of text. The Explorer sidebar on the left shows the project structure with a folder named `DSA` containing a file `first.c`. The code in the editor is as follows:

```
1 #include<stdio.h>
2
3 int main()
4 {
5     printf("Learning C!\n")
6     printf("Feeling Awesome!! :) \n");
7     printf("I am a Programmer\n");
8
9 }
```

E. Search ... on the top header and click ... -> Terminal -> New Terminal as shown below



F. Type **ls** on the terminal to get the list of files present in the current directory.



The screenshot shows the Visual Studio Code interface with a C file named `first.c` open. The code in the editor is:

```
1 #include<stdio.h>
2
3 int main()
4 {
5     printf("Learning C!\n");
6     printf("Feeling Awesome!! :)\n");
7     printf("I am a C programmer!\n");
8 }
```

The terminal window on the right shows the output of the `ls` command in the directory `D:\DSA`:

```
PS D:\DSA> ls

Directory: D:\DSA

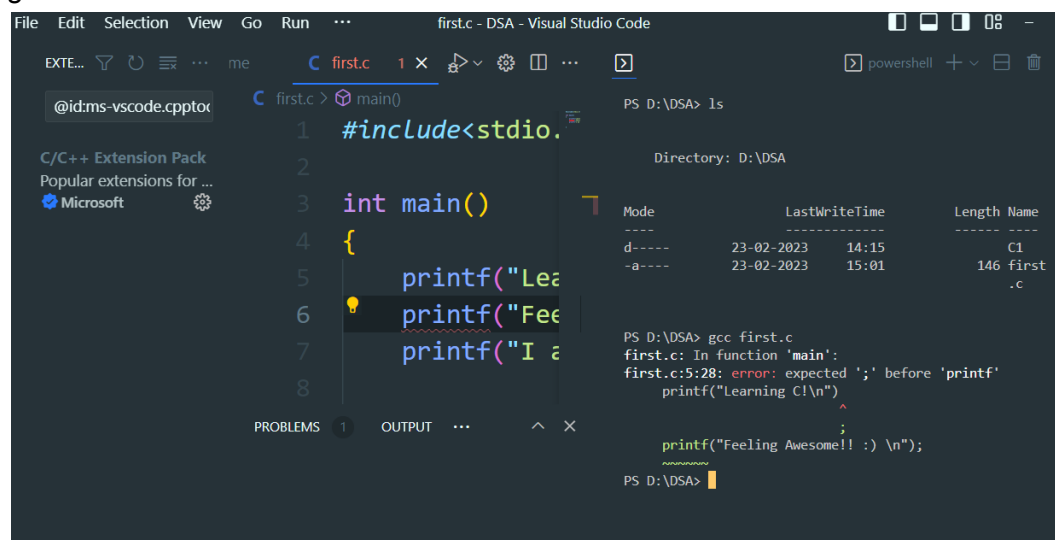
Mode                LastWriteTime         Length Name
----                -
d-----          23-02-2023   14:15             C1
-a-----          23-02-2023   14:57           146 first.c

PS D:\DSA>
```

You will see `first.c` in the listed files

G. Compile your C file using `gcc`.

a. `gcc first.c`



The screenshot shows the Visual Studio Code interface with the same C file `first.c` open. The terminal window on the right shows the output of the `gcc first.c` command:

```
PS D:\DSA> gcc first.c
first.c: In function 'main':
first.c:5:28: error: expected ';' before 'printf'
printf("Learning C!\n")
                        ^
printf("Feeling Awesome!! :) \n");
                        ;
PS D:\DSA>
```

The error message indicates a semicolon is missing after the `printf("Learning C!\n");` line.

b. We are getting an error semicolon missing after the `printf` line. We will fix the error, save it and re-compile it.

c. When we run `ls` command again, we can see `a.exe` (`a.out` in case of linux or Mac) is generated.

```
1 #include<stdio.h>
2
3 int main()
4 {
5     printf("Learning C!\n");
6     printf("Feeling Awesome!! :) \n");
7     printf("I am a Programmer\n");
8 }
```

```
PS D:\DSA> gcc first.c
first.c: In function 'main':
first.c:5:28: error: expected ';' before 'printf'
printf("Learning C!\n");
                        ^
first.c:6:28: error: expected ';' before 'printf'
printf("Feeling Awesome!! :) \n");
                        ^
first.c:7:28: error: expected ';' before 'printf'
printf("I am a Programmer\n");
                        ^
PS D:\DSA> gcc first.c
PS D:\DSA> ls

Directory: D:\DSA

Mode                LastWriteTime         Length Name
----                -
d-----          23-02-2023   14:15             C1
-a----          23-02-2023   15:03          54022 a.exe
-a----          23-02-2023   15:03          147 first.c
```

H. Running Compiled binary file

- .\a.exe (For Windows)
- ./a.exe (For Linux/Mac)

```
PS D:\DSA> gcc first.c
first.c: In function 'main':
first.c:5:28: error: expected ';' before 'printf'
printf("Learning C!\n");
                        ^
first.c:6:28: error: expected ';' before 'printf'
printf("Feeling Awesome!! :) \n");
                        ^
first.c:7:28: error: expected ';' before 'printf'
printf("I am a Programmer\n");
                        ^
PS D:\DSA> gcc first.c
PS D:\DSA> ls

Directory: D:\DSA

Mode                LastWriteTime         Length Name
----                -
d-----          23-02-2023   14:15             C1
-a----          23-02-2023   15:03          54022 a.exe
-a----          23-02-2023   15:03          147 first.c
```

```
PS D:\DSA> .\a.exe
Learning C!
Feeling Awesome!! :)
I am a Programmer
PS D:\DSA>
```

Congratulations! You have compiled and executed your first C Program on your computer.

Extra tip: Saving the compiled file to your preferred name instead of a.exe or a.out as default.

For Windows

- gcc first.c -o first.exe
- .\first.exe

URL: