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# ***PROGRAMMING FUNDAMENTALS***

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## ***Assignment No# 02***



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**Q1. Discuss the reason(s) of following errors occur in the C programs, also give the solution to fix it.**

**Answer:**

**1. Error: undefined reference to 'main'**

The error undefined reference to 'main' in C program is a mistake by the programmer, it occurs when the main() function does not exist in the program. If you used main() function and still the error is there, you must check the spelling of the main() function.

Example, here I wrote **mian()** instead of **main()**, see the spelling of **main()** which is not correct in the program.

**Solution:** To fix this error, correct the spelling of the **main()** function.

**2. Error: missing terminating (") character**

The Error missing terminating (") character is occurred, when a constant string or text is not closed in double quotes either you missed closing quotes or using single quote instead of double quote while closing the string/text.

**Example 1: ("SMI University); Example 2: ("SMI University');**

**Solution:** In the first example, closing double quote is missing, and in the second example, text is closing by single quote instead of double quote.

To fix this error, use double quote to close the string/text.

**Example: ("SMI University');**

**3. Error: expected declaration or statement at end of input in C**

The main cause of this error is – missing closing curly brace (}) of the main() block.

**For Example:**

```
void main()
{
printf("SMI University");
getch();
```

In this program, closing brace of the main() block is missing.

**Solution:** To fix this and such errors, please take care of curly braces, they are properly opened and closed.

**For Example:**

```
void main()
{
printf("SMI University");
getch();
}
```

#### 4. Error: Assignment of read-only variable in C | Common C program Errors

Error “assignment of read-only variable in C” occurs, when we try to assign a value to the read-only variable i.e. constant. In this program, a is a read-only variable or we can say a is an integer constant, there are two mistakes that we have made.

1. While declaring a constant, value must be assigned – which is not assigned.
2. We cannot assign any value after the declaration statement to a constant – which we are trying to assign.

**For Example:** `const int a;  
a=500;`

**Solution:** Assign value to the variable while declaring the constant and do not reassign the variable.

**For Example:** `const int a = 500;`

#### 5. Error: case label does not reduce to an integer constant in C

This is an example of switch case in C programming. In the switch case statement, a case can only have integral constant values i.e. integer or character type constant value. We cannot use any variable as case value.

**Example:** `void main()  
{  
int a,b;  
a=2;  
b=2;  
switch(a){  
case 1:  
printf("SMIU\n");  
break;  
case b:  
printf("SMI University\n");  
break;  
}  
getch();  
}`

**Solution:** To fix the error case label does not reduce to an integer constant, use value 2 instead of variable b. The correct statement will be case 2.

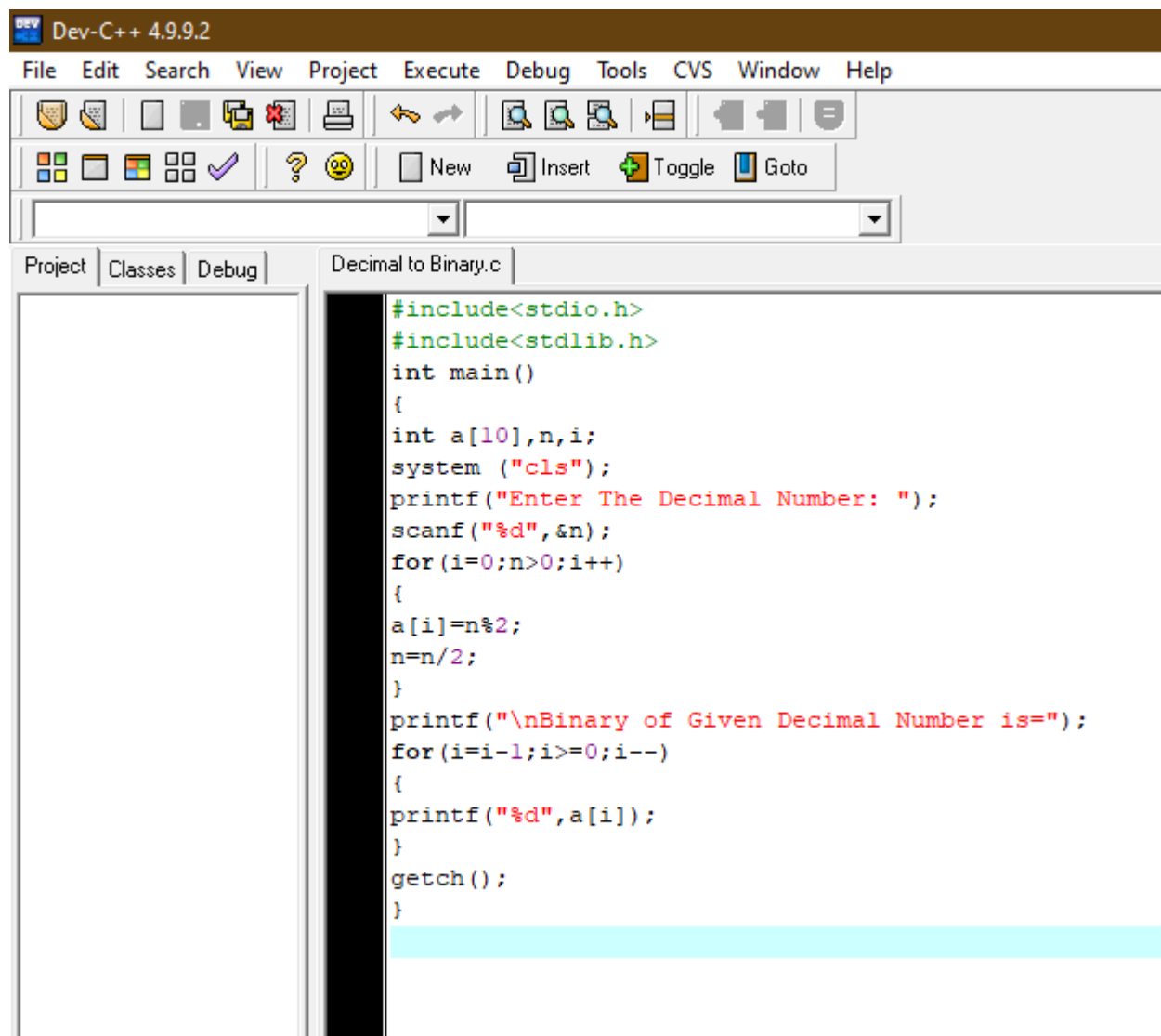
**Example:** `void main()  
{  
int a,b;  
a=2;  
b=2;`

```
switch(a)
{
case 1:
printf("SMIU\n");
break;
case 2:
printf("SMI University\n");
break;
}
getch();
}
```

**Q2. Develop following programs**

**1. Write a program to convert decimal number into binary.**

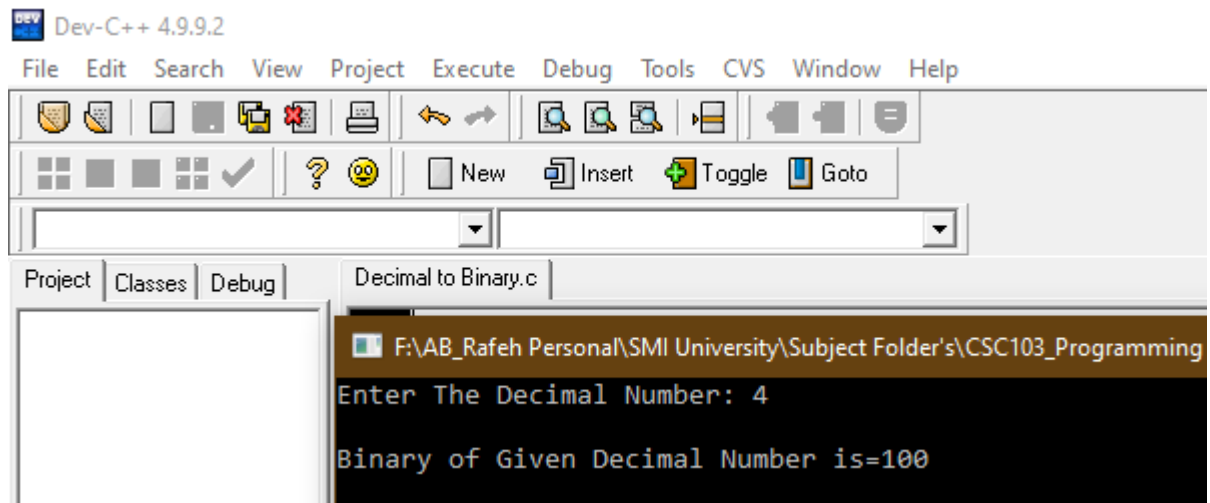
**Answer:**



The screenshot shows the Dev-C++ 4.9.9.2 IDE. The menu bar includes File, Edit, Search, View, Project, Execute, Debug, Tools, CVS, Window, and Help. The toolbar contains icons for file operations, execution, and navigation. The project explorer on the left shows a project named 'Decimal to Binary.c'. The main editor window displays the following C code:

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
int a[10],n,i;
system ("cls");
printf("Enter The Decimal Number: ");
scanf ("%d",&n);
for(i=0;n>0;i++)
{
a[i]=n%2;
n=n/2;
}
printf("\nBinary of Given Decimal Number is=");
for(i=i-1;i>=0;i--)
{
printf("%d",a[i]);
}
getch();
}
```

**Output:**



Dev-C++ 4.9.9.2

File Edit Search View Project Execute Debug Tools CVS Window Help

Project Classes Debug | Decimal to Binary.c

F:\AB\_Rafah Personal\SMI University\Subject Folder's\CSC103\_Programming

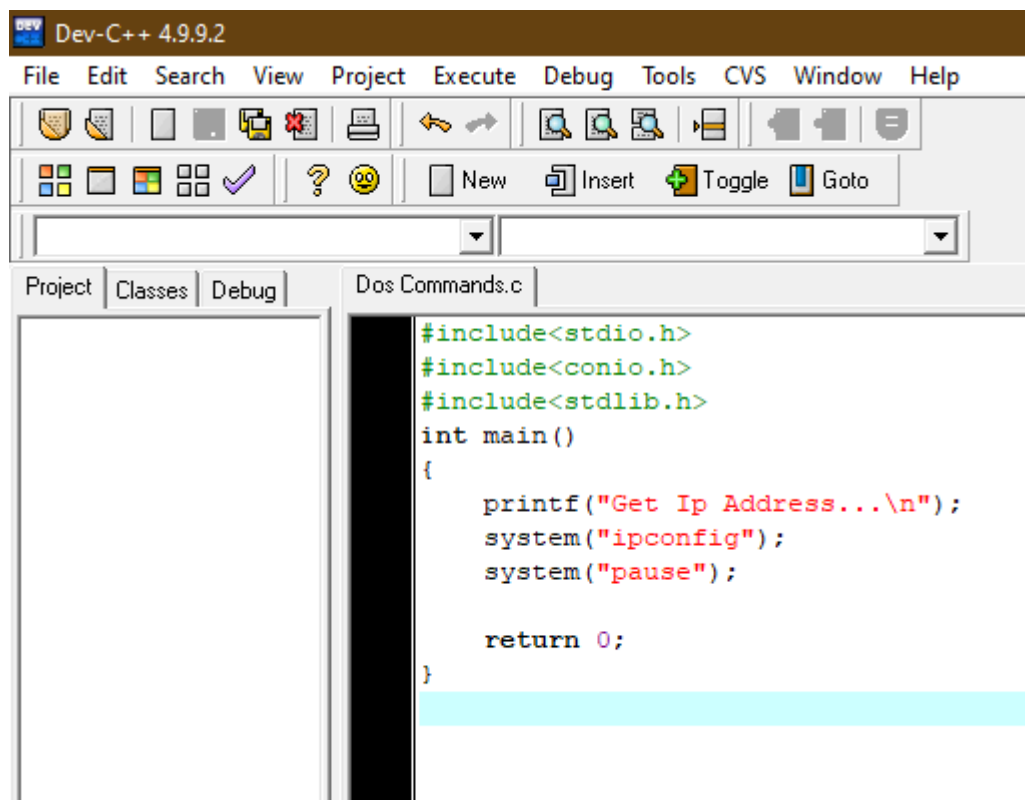
Enter The Decimal Number: 4

Binary of Given Decimal Number is=100

**2. Program to run dos commands in C**

- a) Get System IP Address
- b) Delete a file
- c) Delete a folder
- d) Clearing the Screen on DOS mode
- e) Exit from DOS mode

**Answer:** Part A



Dev-C++ 4.9.9.2

File Edit Search View Project Execute Debug Tools CVS Window Help

Project Classes Debug | Dos Commands.c

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
int main()
{
    printf("Get Ip Address...\n");
    system("ipconfig");
    system("pause");

    return 0;
}
```

## Output:

```
Dev-C++ 4.9.9.2
File Edit Search View Project Execute Debug Tools CVS Window Help

F:\AB_Rafah Persona\SMI University\Subject Folder's\CSC103_Programming Fundamentals\Assignm
Get Ip Address...

Windows IP Configuration

Ethernet adapter Ethernet:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 2:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 3:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix  . :
    Link-local IPv6 Address . . . . . : fe80::61d2:25dc:8b22:462d%13
    IPv4 Address. . . . . : 192.168.0.102
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.0.1

Ethernet adapter Bluetooth Network Connection:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :
    Press any key to continue . . .
```

## Part B

```
Dev-C++ 4.9.9.2
File Edit Search View Project Execute Debug Tools CVS Window Help

Project Classes Debug Del files.c

#include<stdio.h>
#include<conio.h>
int main()
{
    int status;
    char file_name[25];

    printf("Enter the file name you want to delete\n");
    gets(file_name);

    status = remove(file_name);

    if (status == 0)
        printf("%s file deleted successfully.\n", file_name);
    else
    {
        printf("Unable to delete the file\n");
        perror("Following error occurred");
    }

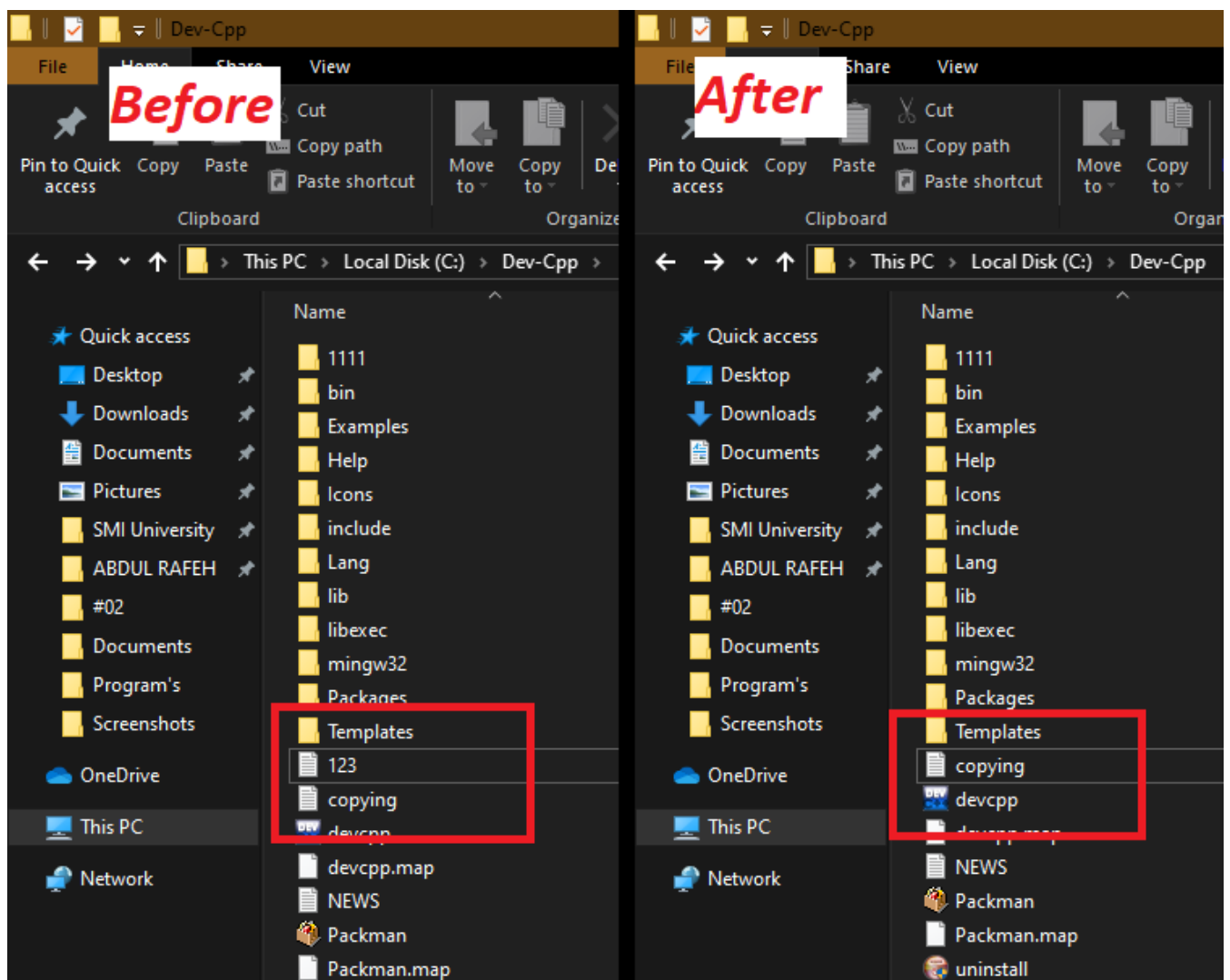
    getch();
}
```

## Output:

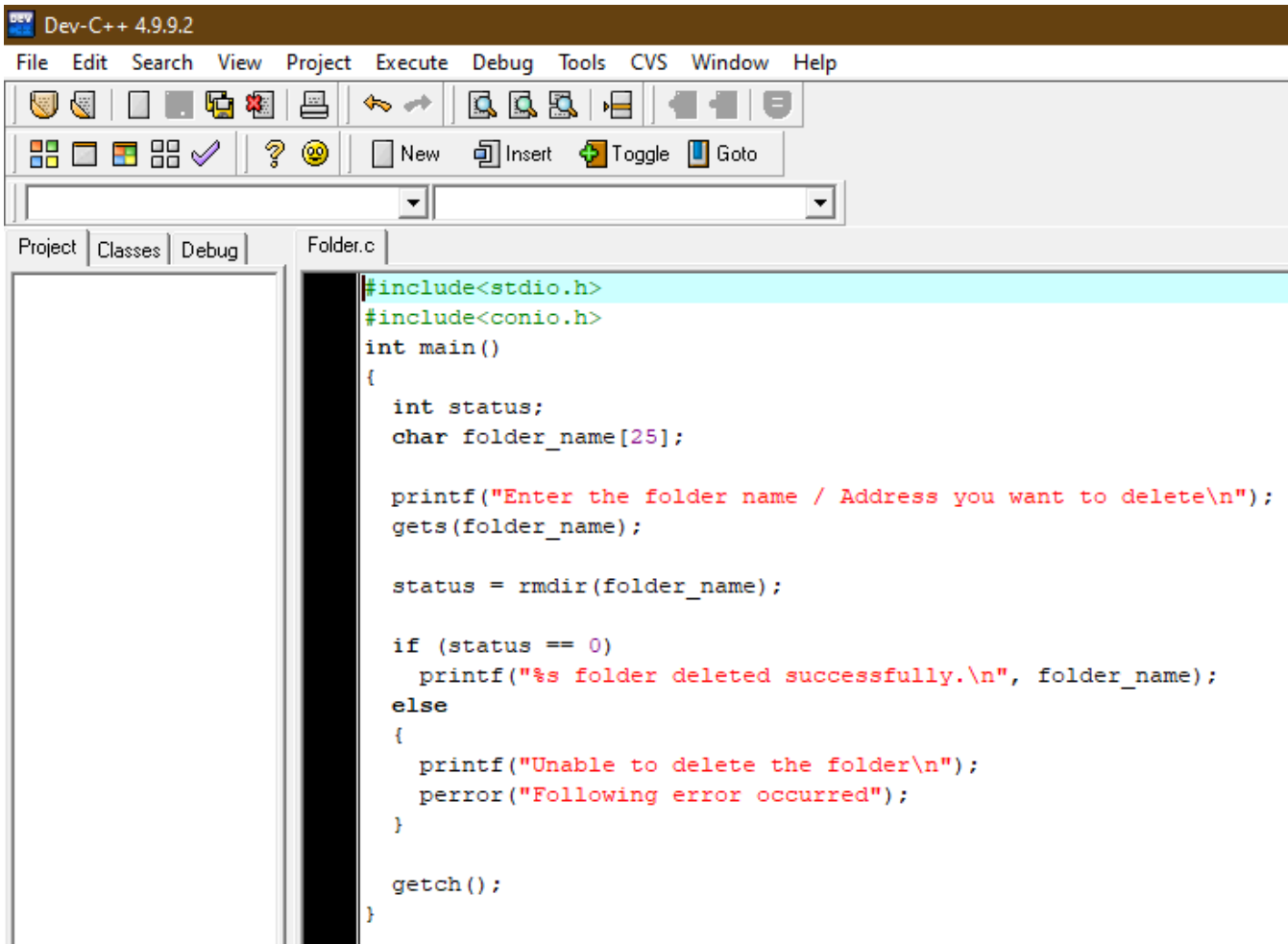
```

Dev-C++ 4.9.9.2
File Edit Search View Project Execute Debug Tools CVS Window Help
[Icons]
[Buttons: New, Insert, Toggle, Goto]
Project Classes Debug Del files.c
F:\AB_Rafeh Personal\SMI University\Subject Folder's\CSC103_Programming Fundamen
Enter the file name you want to delete
C:\\Dev-Cpp\\123.txt
C:\\Dev-Cpp\\123.txt file deleted successfully.
  
```

File location before and after SS Attached.



## Part C



The screenshot shows the Dev-C++ 4.9.2 IDE with the 'Folder.c' file open. The code is as follows:

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int status;
    char folder_name[25];

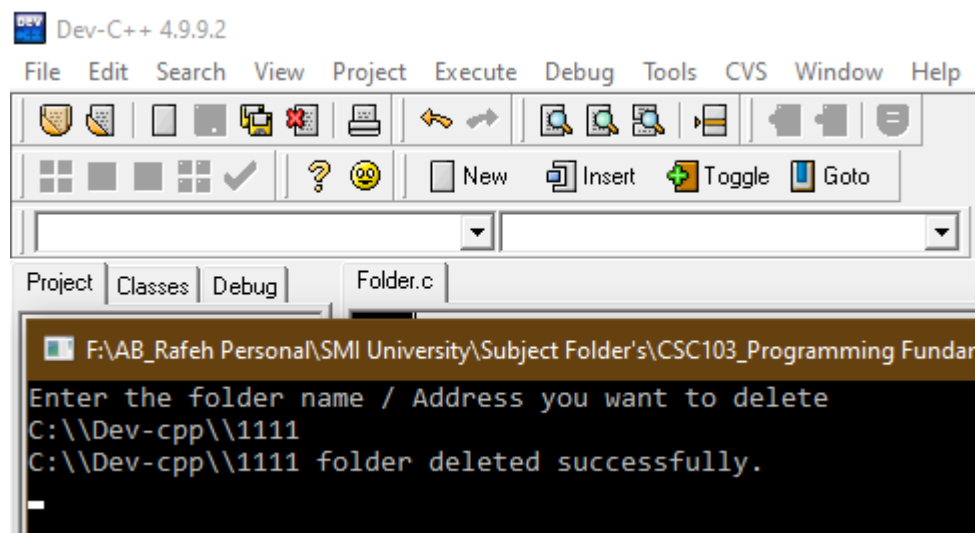
    printf("Enter the folder name / Address you want to delete\n");
    gets(folder_name);

    status = rmdir(folder_name);

    if (status == 0)
        printf("%s folder deleted successfully.\n", folder_name);
    else
    {
        printf("Unable to delete the folder\n");
        perror("Following error occurred");
    }

    getch();
}
```

## Output:

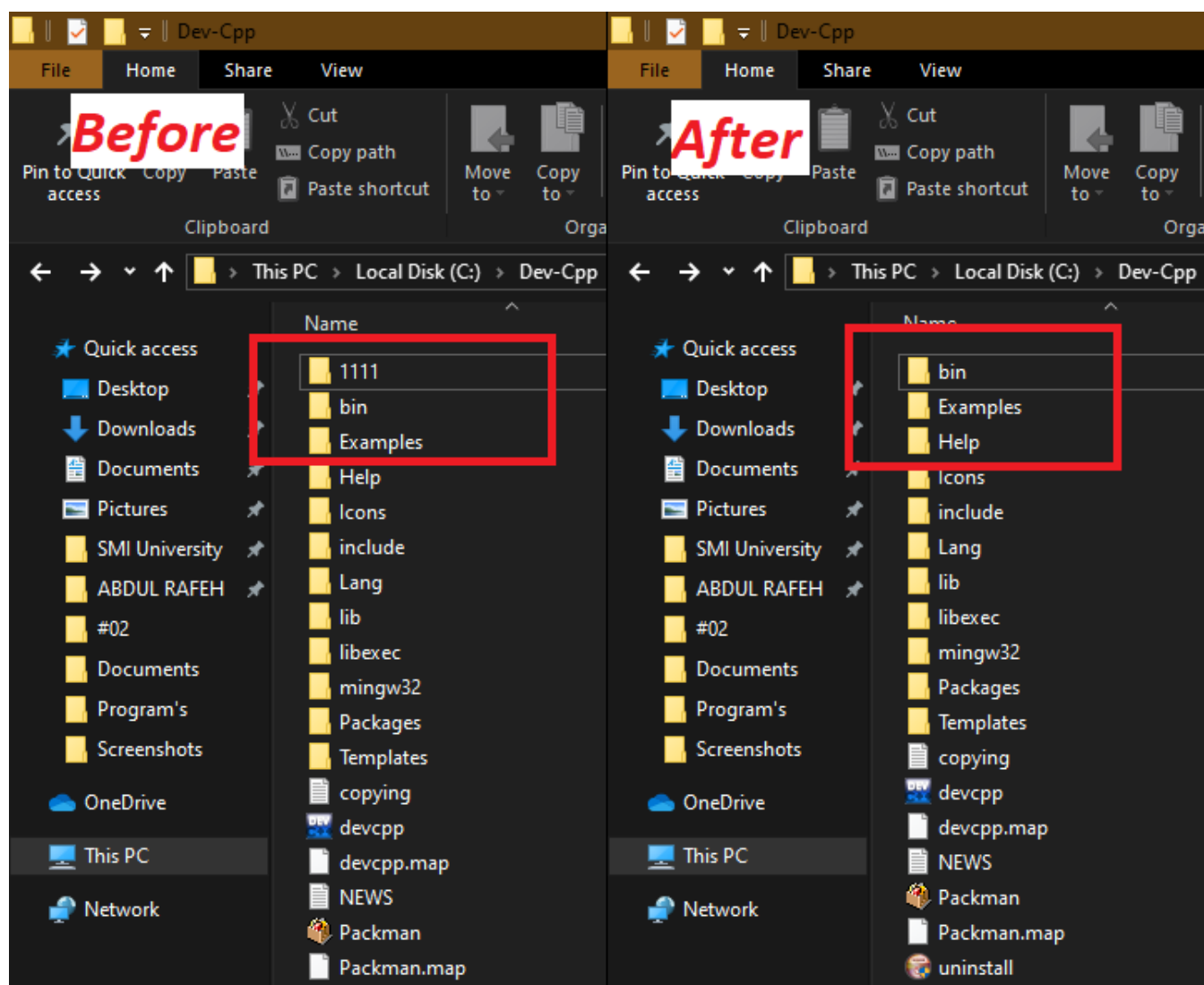


The screenshot shows the Dev-C++ 4.9.2 IDE with the 'Folder.c' file open. The output window is visible, showing the following text:

```
F:\AB_Rafeh Personal\SMI University\Subject Folder's\CSC103_Programming Fundar
Enter the folder name / Address you want to delete
C:\\Dev-cpp\\1111
C:\\Dev-cpp\\1111 folder deleted successfully.
```

Folder location before and after SS Attached Below.





## Part D & E

The screenshot displays the Dev-C++ 4.9.9.2 IDE. The main window shows a C program named `doslnC.c` with the following code:

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
#include<dos.h>

int main()
{
    printf("Enter your option:\n- Press '1' for 'cls'.\n- Press '2' for 'exit'.");
    int option;
    scanf("%d", &option);
    switch(option){
        case 1:
        {
            system("cls");
            break;
        }

        case 2:
        {
            system("exit");
            break;
        }
    }
    getch();
}
```

Below the code editor, a smaller window shows the program's execution. The output is:

```
Enter your option:
- Press '1' for 'cls'.
- Press '2' for 'exit'.
```