

Module -1

Logic Building and Problem Solving

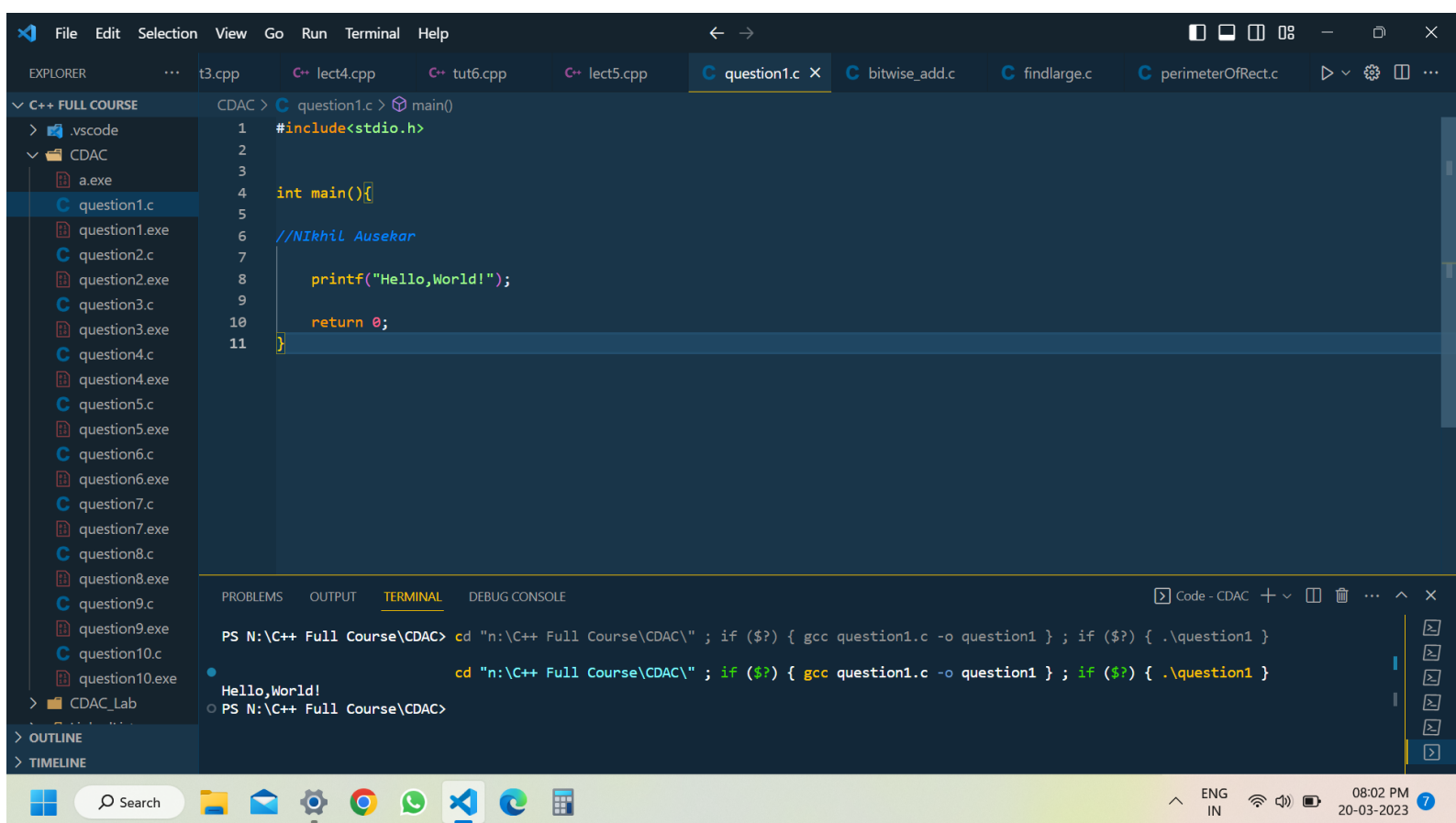
Assignment No. 1

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Batch: C-DAC, 17 Mar 2023

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Q1.



The screenshot displays the Visual Studio Code interface. The Explorer panel on the left shows a project structure with a folder named 'CDAC' containing various files, including 'question1.c'. The main editor window shows the code for 'question1.c', which includes a C++ program that prints 'Hello,World!'. The output panel at the bottom shows the command prompt output, indicating the successful execution of the program and the printed output 'Hello,World!'.

```
1 #include<stdio.h>
2
3
4 int main(){
5
6 //Nikhil Ausekar
7
8 printf("Hello,World!");
9
10 return 0;
11 }
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

PS N:\C++ Full Course\CDAC> cd "n:\C++ Full Course\CDAC\" ; if (\$?) { gcc question1.c -o question1 } ; if (\$?) { .\question1 }
Hello,World!
PS N:\C++ Full Course\CDAC>

Q2.

The image shows a Visual Studio Code editor window with a C++ project. The Explorer sidebar on the left shows a folder named 'CDAC' containing several files, including 'question2.c'. The main editor area displays the code for 'question2.c', which includes a header file and a main function that prints personal information. The bottom panel shows the 'TERMINAL' tab with the command prompt output of the program's execution.

```
1 #include<stdio.h>
2
3 int main(){
4     printf("%s\n", "Name : Nikhil Shivshankar Ausekar");
5     printf("%s\n", "DOB : Feb 27, 2000");
6     printf("Mobile : %s\n", "91-9130558387");
7     return 0;
8 }
```

Terminal Output:

```
cd "N:\C++ Full Course\CDAC" ; if ($?) { gcc question2.c -o question2 } ; if ($?) { .\question2 }
Name : Nikhil Shivshankar Ausekar
DOB : Feb 27, 2000
Mobile : 91-9130558387
PS N:\C++ Full Course\CDAC>
```

Q3.

The screenshot displays the Visual Studio Code interface. The Explorer sidebar on the left shows a project structure with a 'CDAC' folder containing various question files and executables. The main editor window shows the code for 'question3.c', which includes a C++ program to reverse a string. The code is as follows:

```
1 #include<stdio.h>
2
3 int main(){
4
5     char M,X,L;
6
7     M='M',X='X',L='L';
8     // XML reverse is LMX
9     //Nikhil Ausekar
10    // printf("The reverse of XML is %c%c%c\n",L,M,X);
11
12    printf("The reverse of XML is %c%c%c\n",'X'-12,'M','L'+12 );
13
14
15
16    return 0;
17 }
```

The TERMINAL panel at the bottom shows the execution of the program:

```
PS N:\C++ Full Course\CDAC> gcc question3.c
PS N:\C++ Full Course\CDAC> ./question3.exe
The reverse of XML is LMX
PS N:\C++ Full Course\CDAC>
```

The Windows taskbar at the bottom shows the system clock as 08:03 PM on 20-03-2023, along with various system icons and a search bar.

Q4.

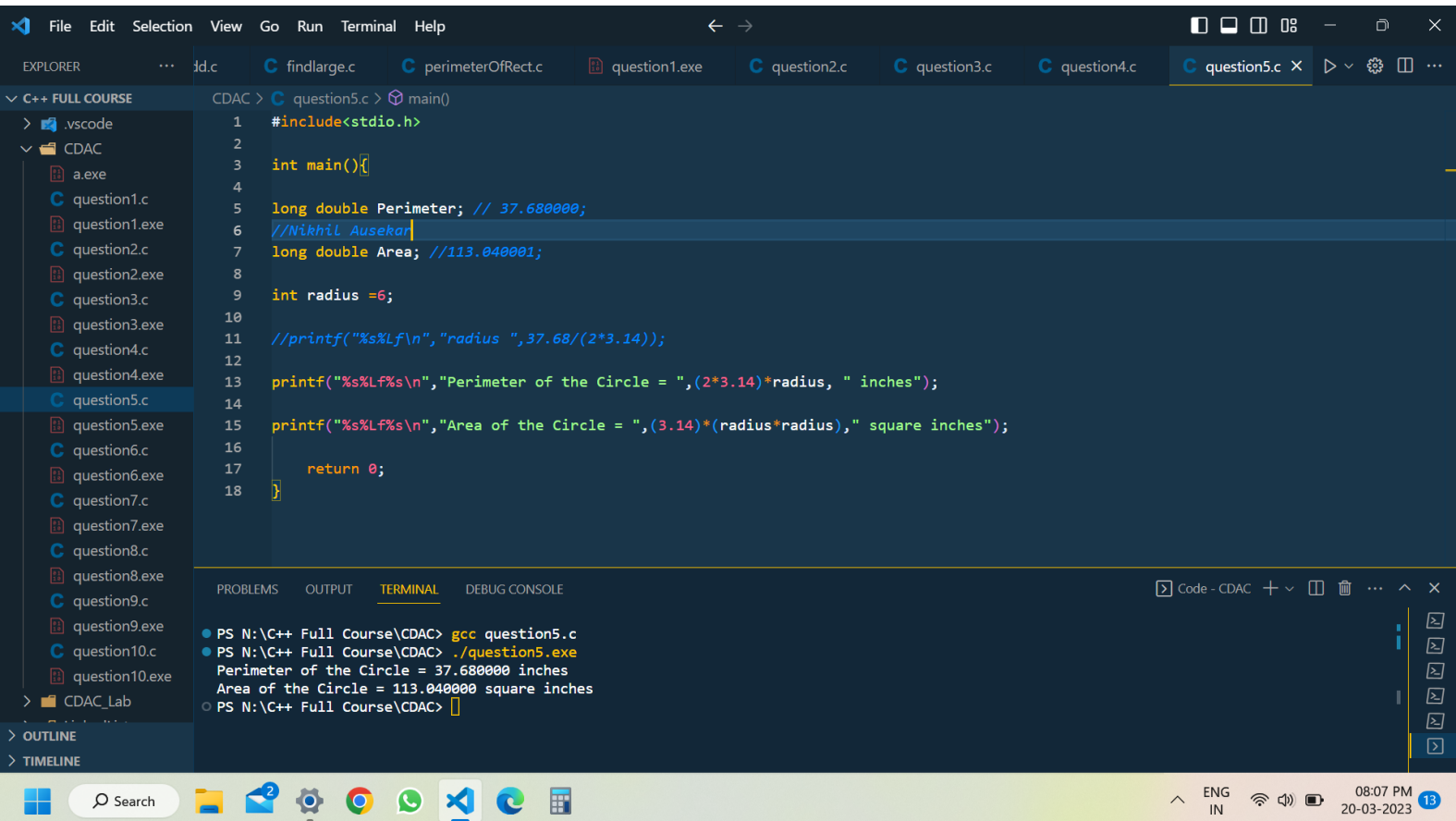
```
1 #include<stdio.h>
2
3
4 int main(){
5
6 // Nikhil Ausekar
7     long perimeter;
8     long area;
9
10    int hight =7;
11    int width =5;
12
13    perimeter=(7*2)+(5*2);
14    area = 7*5;
15
16    printf("%s%d%s\n","Perimeter of the rectangle = ",perimeter," inches");
17    printf("%s%d%s\n","Area of the rectangle = ",area," square inches");
18
19    return 0;
20 }
```

PROBLEMS OUTPUT **TERMINAL** DEBUG CONSOLE

```
PS N:\C++ Full Course\CDAC> gcc question4.c
PS N:\C++ Full Course\CDAC> ./question4.exe
Perimeter of the reactangle = 24 inches
Area of the reactangle = 35 square inches
PS N:\C++ Full Course\CDAC>
```

Windows taskbar at the bottom shows the time as 08:06 PM on 20-03-2023.

Q5.



```
1 #include<stdio.h>
2
3 int main(){
4
5     long double Perimeter; // 37.680000;
6     //Nikhil Ausekar
7     long double Area; //113.040001;
8
9     int radius =6;
10
11     //printf("%sLf\n","radius ",37.68/(2*3.14));
12
13     printf("%sLf%s\n","Perimeter of the Circle = ",(2*3.14)*radius, " inches");
14
15     printf("%sLf%s\n","Area of the Circle = ",(3.14)*(radius*radius)," square inches");
16
17     return 0;
18 }
```

PROBLEMS OUTPUT **TERMINAL** DEBUG CONSOLE

Code - CDAC

- PS N:\C++ Full Course\CDAC> gcc question5.c
- PS N:\C++ Full Course\CDAC> ./question5.exe
Perimeter of the Circle = 37.680000 inches
Area of the Circle = 113.040000 square inches
- PS N:\C++ Full Course\CDAC>

08:07 PM
20-03-2023

Q6.

The screenshot shows the Visual Studio Code interface with a C++ project. The Explorer panel on the left shows the file structure, including a folder named 'CDAC' containing several question files. The main editor displays the code for 'question6.c', which includes standard headers and declares variables of various types (int, long, short, float, double, char, unsigned long). The code uses printf to output the values of these variables. A comment '//Nikhil Ausekar' is present. The bottom panel shows the 'TERMINAL' output, which displays the results of running the program: a+c = 212, x+c = 89.134590, dx+x = 3.276183, dx+ax = 1234567891, ax+x = 127.124590, s+b = 16388, ax+b = 1234580235, s+c = 4130, ax+c = 1234567977, ax+ux = 3776135780. The system tray at the bottom indicates the date and time as 08:14 PM on 20-03-2023.

```
1 #include<stdio.h>
2 int main(){
3     // declaration of variables
4     int a =125,b =12345;
5     long ax = 1234567890;
6     short s = 4043; //Nikhil Ausekar
7     float x = 2.13459;
8     double dx = 1.1415927;
9     char c ='W';
10    unsigned long ux = 2541567890;
11
12    printf("a+c = %d\n",a+c);
13    printf("x+c = %f\n",x+c);
14    printf("dx+x = %f\n",dx+x);
15    printf("dx+ax = %i\n",((int)dx)+ax);
16    printf("a+x = %f\n",a+x);
17    printf("s+b = %d\n",s+b);
18    printf("ax+b = %d\n",ax+b);
19    printf("s+c = %d\n",s+c);
20    printf("ax+c = %d\n",ax+c);
21    printf("ax+ux = %u\n",ax+ux);
22    return 0;
23 }
```

PS N:\C++ Full Course\CDAC> ./question6.exe

a+c = 212
x+c = 89.134590
dx+x = 3.276183
dx+ax = 1234567891
ax+x = 127.124590
s+b = 16388
ax+b = 1234580235
s+c = 4130
ax+c = 1234567977
ax+ux = 3776135780
PS N:\C++ Full Course\CDAC>

Q7.

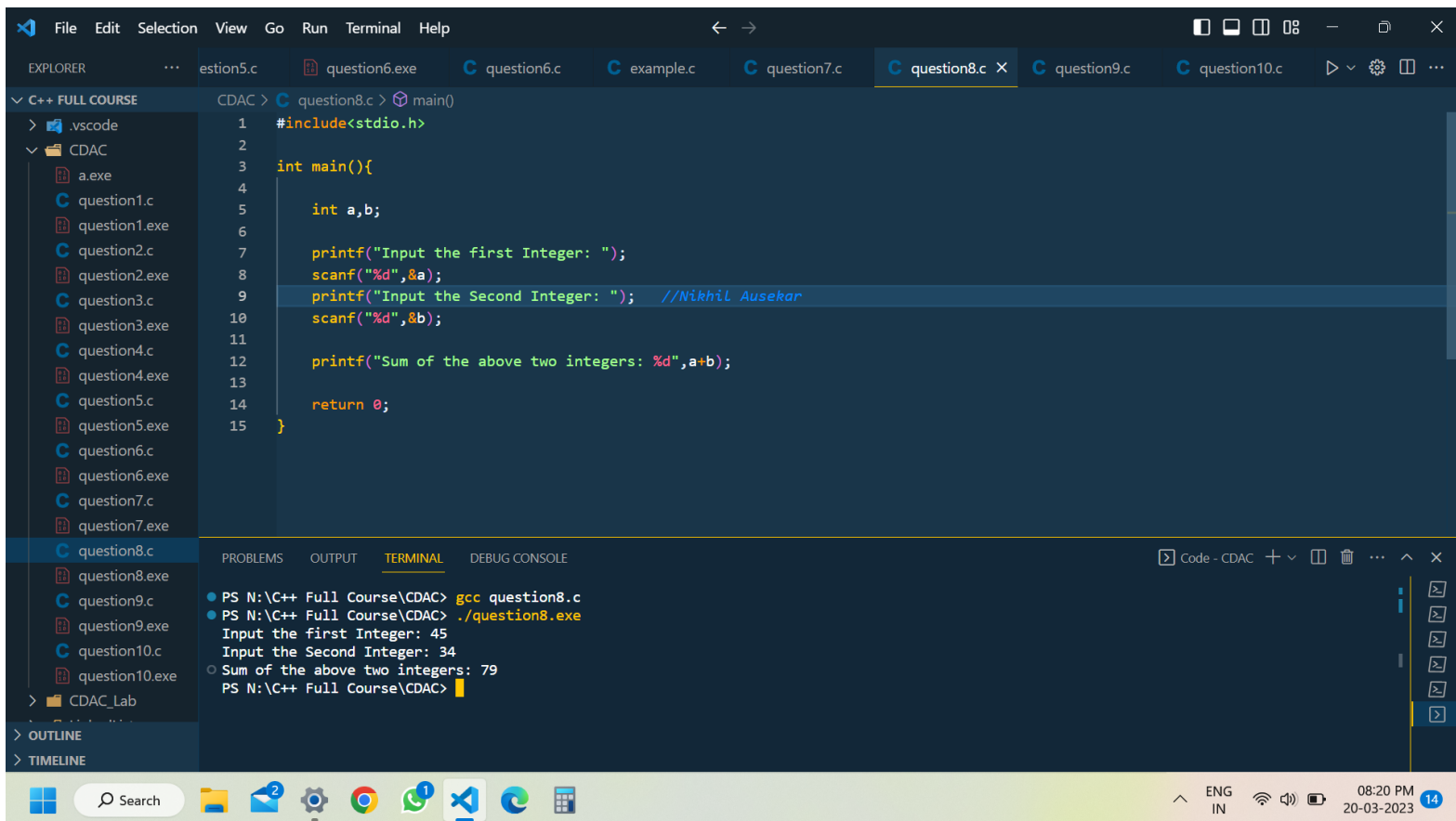
The screenshot displays a Windows IDE with a C++ project named "CDAC". The file explorer on the left shows the project structure, including a "CDAC" folder containing several source files and executables. The main editor window shows the code for "question7.c", which calculates the number of years, weeks, and days from a given number of days. The code is as follows:

```
1 #include<stdio.h>
2
3 int main(){
4
5     int days;
6     printf("Enter the number of days :");
7     scanf("%d",&days);
8     int years= days/365;
9     //Nikhil Ausekar
10    int weeks = (1329%365)/7;
11    int day = ((1329%365)%7);
12
13    printf("%s%d\n", "Years: ",years);
14    printf("%s%d\n", "Weeks: ",weeks);
15    printf("%s%d\n", "Days: ",day);
16
17    return 0;
18 }
```

The terminal window at the bottom shows the compilation and execution process. It indicates a compilation error for "question7.c" and then shows the output of the program when executed with the input "3456".

```
gcc.exe: error: question7.c: No such file or directory
gcc.exe: fatal error: no input files
compilation terminated.
PS N:\C++ Full Course\CDAC> gcc question7.c
PS N:\C++ Full Course\CDAC> ./question7.exe
Enter the number of days :3456
Years: 9
Weeks: 33
Days: 3
PS N:\C++ Full Course\CDAC>
```

Q8.



The screenshot displays the Visual Studio Code interface with a C++ project named "CDAC". The Explorer sidebar on the left shows the file structure, including source files (question1.c to question10.c) and executables (question1.exe to question10.exe). The main editor window shows the code for "question8.c", which is a C++ program that takes two integers as input and prints their sum. The code is as follows:

```
1 #include<stdio.h>
2
3 int main(){
4
5     int a,b;
6
7     printf("Input the first Integer: ");
8     scanf("%d",&a);
9     printf("Input the Second Integer: "); //Nikhil Ausekar
10    scanf("%d",&b);
11
12    printf("Sum of the above two integers: %d",a+b);
13
14    return 0;
15 }
```

The TERMINAL panel at the bottom shows the execution of the program. The commands entered are `gcc question8.c` and `./question8.exe`. The output shows the program prompting for the first and second integers, receiving inputs of 45 and 34 respectively, and then printing the sum: 79.

```
PS N:\C++ Full Course\CDAC> gcc question8.c
PS N:\C++ Full Course\CDAC> ./question8.exe
Input the first Integer: 45
Input the Second Integer: 34
Sum of the above two integers: 79
PS N:\C++ Full Course\CDAC>
```

The Windows taskbar at the bottom shows the system clock as 08:20 PM on 20-03-2023, along with various system icons and a search bar.

Q9.

```
File Edit Selection View Go Run Terminal Help
EXPLORER
C++ FULL COURSE
  .vscode
  CDAC
    a.exe
    question1.c
    question1.exe
    question2.c
    question2.exe
    question3.c
    question3.exe
    question4.c
    question4.exe
    question5.c
    question5.exe
    question6.c
    question6.exe
    question7.c
    question7.exe
    question8.c
    question8.exe
    question9.c
    question9.exe
    question10.c
    question10.exe
  CDAC_Lab
  ...
OUTLINE
TIMELINE

CDAC > C question9.c > main()
1  #include<stdio.h>
2
3  int main(){
4
5      int a,b;
6
7      printf("Input the first Integer: ");
8      scanf("%d",&a);
9      printf("Input the Second Integer: "); //Nikhil Ausekar
10     scanf("%d",&b);
11
12     printf("Product of the above two integers: %d",a*b);
13
14
15     return 0;
16 }
```

PROBLEMS OUTPUT **TERMINAL** DEBUG CONSOLE

```
PS N:\C++ Full Course\CDAC> gcc question9.c
PS N:\C++ Full Course\CDAC> ./question9.exe
Input the first Integer: 45
Input the Second Integer: 4
Product of the above two integers: 180
PS N:\C++ Full Course\CDAC>
```

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Q10.

```
File Edit Selection View Go Run Terminal Help
EXPLORER
C++ FULL COURSE
  .vscode
  CDAC
    a.exe
    question1.c
    question1.exe
    question2.c
    question2.exe
    question3.c
    question3.exe
    question4.c
    question4.exe
    question5.c
    question5.exe
    question6.c
    question6.exe
    question7.c
    question7.exe
    question8.c
    question8.exe
    question9.c
    question9.exe
    question10.c
    question10.exe
  CDAC_Lab
  OUTLINE
  TIMELINE
CDAC > question10.c > main()
1 #include<stdio.h>
2
3 int main(){
4
5     int a,b;
6
7     printf("Enter the first Integer: ");
8     scanf("%d",&a);
9     printf("Enter the Second Integer: "); //Nikhil Ausekar
10    scanf("%d",&b);
11
12    printf("Sum of the above two integers: %d",a+b);
13
14    return 0;
15 }
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
PS N:\C++ Full Course\CDAC> gcc question10.c
PS N:\C++ Full Course\CDAC> ./question10.exe
Enter the first Integer: 450
Enter the Second Integer: 460
Sum of the above two integers: 910
PS N:\C++ Full Course\CDAC>
```

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