

**PG - DAC Sept 2023**

**Logical Building & Problem Solving**

**Assignment - 1(Date:08/09/2023)**

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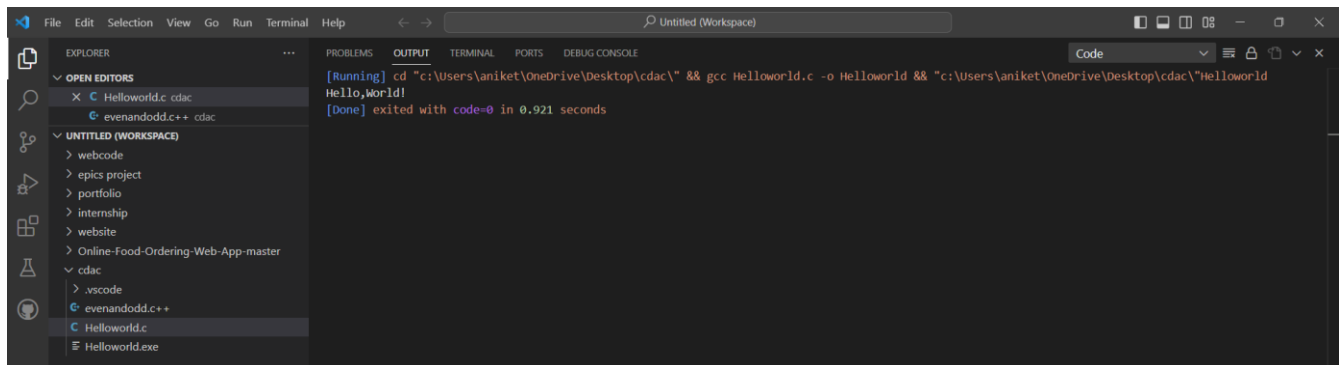
1. Write a program that prints "Hello, World!" to the console.

Code:

```
#include<stdio.h>

int main()
{
    printf("Hello,World!");
    return 0;
}
```

Output:



2. Write a C program to print your name, date of birth, and mobile number.

Expected Output:

Name : Alexandra Abramov

DOB : July 14, 1975

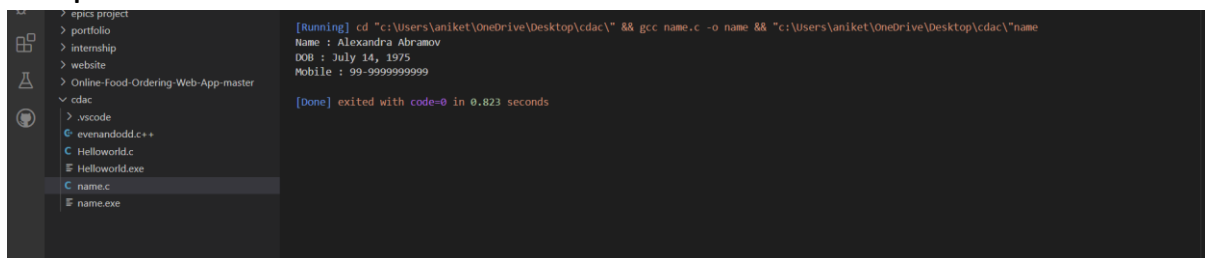
Mobile : 99-9999999999

Code:

```
#include<stdio.h>

int main()
{
    printf("Name : Alexandra Abramov\n");
    printf("DOB : July 14, 1975\n");
    printf("Mobile : 99-9999999999\n");
    return 0;
}
```

Output:



```
[Running] cd "c:\Users\aniket\OneDrive\Desktop\cdac\" && gcc name.c -o name && "c:\Users\aniket\OneDrive\Desktop\cdac\"name
Name : Alexandra Abramov
DOB : July 14, 1975
Mobile : 99-9999999999
[Done] exited with code=0 in 0.823 seconds
```

3. Write a C program to print the following characters in reverse. Test Characters: 'X', 'M', 'L' Expected Output: The reverse of XML is LMX.

Expected Output: The reverse of XML is LMX

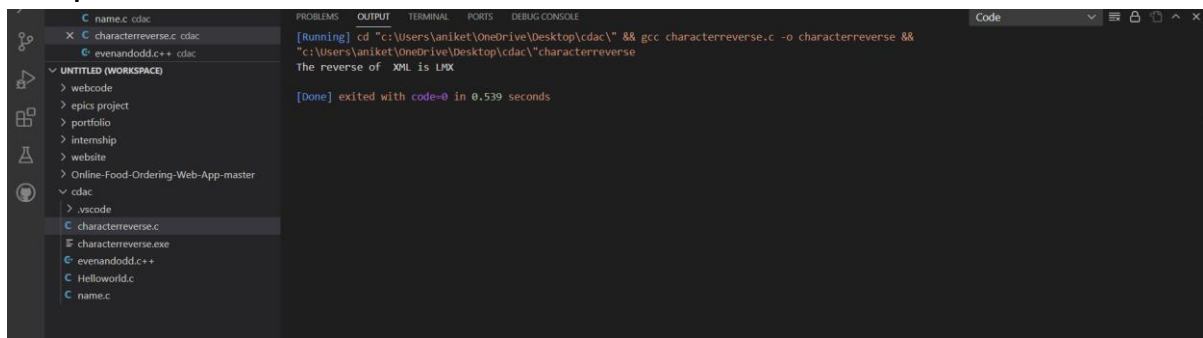
Code:

```
#include<stdio.h>

int main()
{
    char char1='X';
    char char2='M';
    char char3='L';

    printf("The reverse of  %c%c%c is %c%c%c\n",
    char1,char2,char3,
    char3,char2,char1);
    return 0;
}
```

## Output:



```
name.c cdac
X characterreverse.c cdac
evenandodd.c++ cdac
UNTITLED (WORKSPACE)
> webcode
> epics project
> portfolio
> internship
> website
> Online-Food-Ordering-Web-App-master
> cdac
> .vscode
C characterreverse.c
F characterreverse.exe
C evenandodd.c++
C Helloword.c
C name.c

[running] cd "C:\Users\aniket\OneDrive\Desktop\cdac\" && gcc characterreverse.c -o characterreverse &&
"C:\Users\aniket\OneDrive\Desktop\cdac\"characterreverse
The reverse of 1234 is 4321

[Done] exited with code=0 in 0.539 seconds
```

4. Write a C program to compute the perimeter and area of a rectangle with a height of 7 inches and width of 5 inches.

Expected Output:

Perimeter of the rectangle = 24 inches

Area of the rectangle = 35 square inches

## Code:

```
#include<stdio.h>

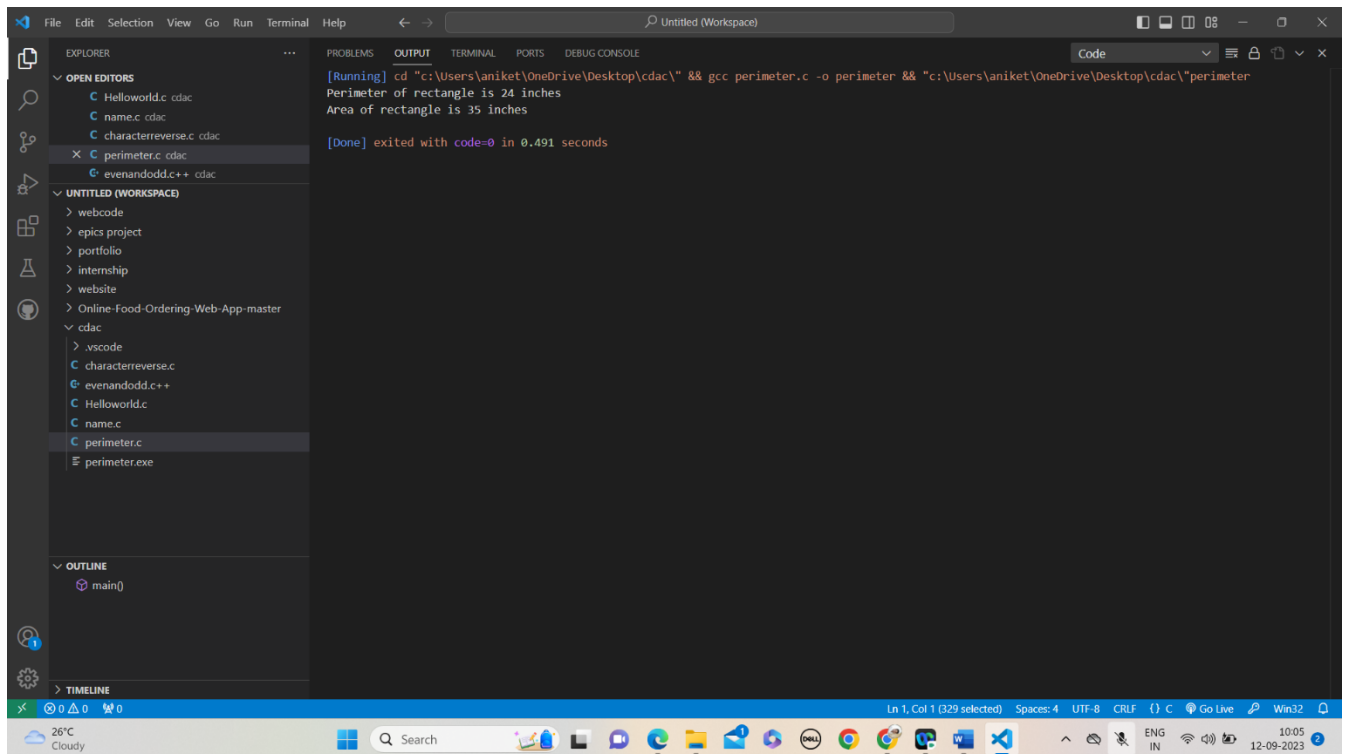
int main()
{
    int perimeter;
    int area;
    int height;
    int width;
    height=7;
    width=5;

    perimeter=2*(height+width);
    printf("Perimeter of rectangle is %d inches\n",perimeter);

    area= height*width;
    printf("Area of rectangle is %d inches\n",area);

    return 0;
}
```

## Output:



```
File Edit Selection View Go Run Terminal Help
Untitled (Workspace)

EXPLORER
OPEN EDITORS
  C Helloworld.c cdac
  C name.c cdac
  C characterreverse.c cdac
  C perimeter.c cdac
  C evenandodd.c++ cdac
  UNTITLED (WORKSPACE)
    webcode
    epics project
    portfolio
    internship
    website
    Online-Food-Ordering-Web-App-master
    cdac
      .vscode
      characterreverse.c
      evenandodd.c++
      Helloworld.c
      name.c
      perimeter.c
      perimeter.exe
  OUTLINE
    main()
  TIMELINE

PROBLEMS OUTPUT TERMINAL PORTS DEBUG CONSOLE
[Running] cd "c:\Users\aniket\OneDrive\Desktop\cdac\" && gcc perimeter.c -o perimeter && "c:\Users\aniket\OneDrive\Desktop\cdac\perimeter
Perimeter of rectangle is 24 inches
Area of rectangle is 35 inches

[Done] exited with code=0 in 0.491 seconds

Ln 1, Col 1 (329 selected) Spaces: 4 UTF-8 CRLF {} C Go Live Win32
26°C Cloudy Search 10:05 12-09-2023
```

5. Write a C program to compute the perimeter and area of a circle with a given radius.

Expected Output:

Perimeter of the Circle = 37.680000 inches

Area of the Circle = 113.040001 square inch

## Code:

```
#include<stdio.h>

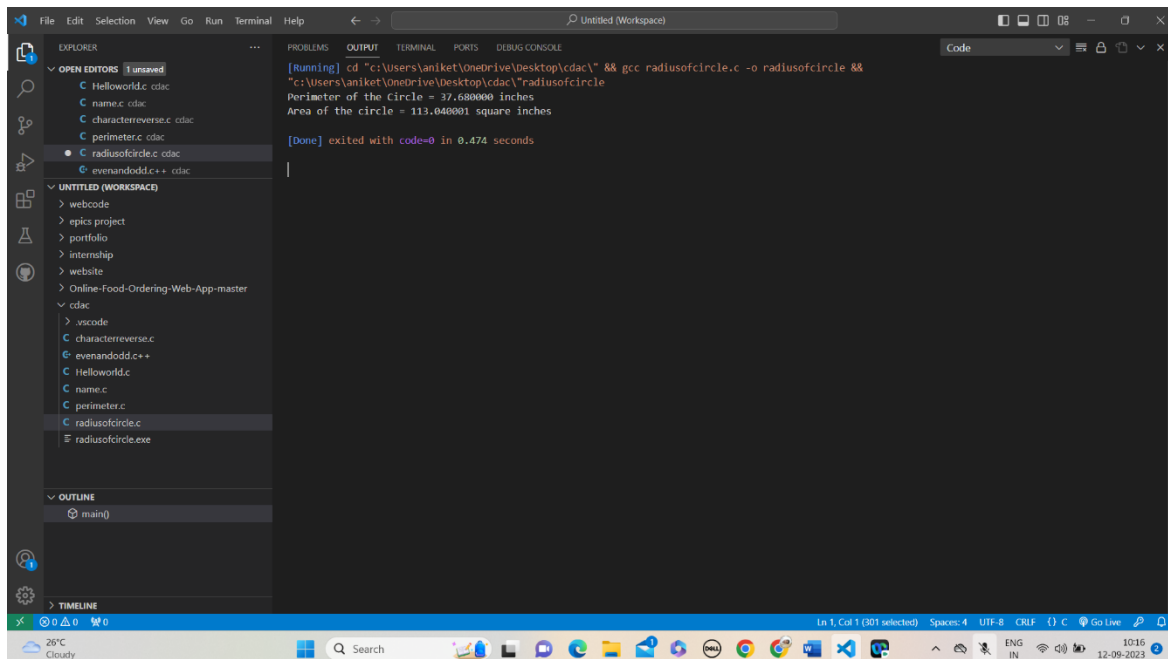
int main()
{
    float area,perimeter;
    int radius;
    radius=6;

    perimeter=2*3.14*radius;
    printf("Perimeter of the Circle = %f inches\n",perimeter);

    area= 3.14*radius*radius;
    printf("Area of the circle = %f square inches\n",area);

    return 0;
}
```

Output:

A screenshot of the Visual Studio Code interface. The Explorer panel on the left shows a project structure with files like 'Helloworld.c', 'name.c', 'characterreverse.c', 'perimeter.c', 'radiusofcircle.c', and 'evenandodd.c'. The 'radiusofcircle.c' file is selected. The Output panel on the right shows the execution output of the 'radiusofcircle.c' program. The output text is: [Running] cd "c:\Users\aniket\OneDrive\Desktop\cdac\" && gcc radiusofcircle.c -o radiusofcircle && "c:\Users\aniket\OneDrive\Desktop\cdac\"radiusofcircle Perimeter of the circle = 37.690000 inches Area of the circle = 113.046001 square inches [Done] exited with code=0 in 0.474 seconds. The bottom status bar shows 'Ln 1, Col 1 (201 selected)', 'Spaces: 4', 'UTF-8', 'CRLF', and 'Go Live'.

6. Write a C program to display multiple variables. Sample Variables :  
a+ c, x + c, dx + x, ((int) dx) + ax, a + x, s + b, ax + b, s + c, ax + c, ax  
+ ux

Declaration:

```
int a = 125, b = 12345;  
long ax = 1234567890;  
short s = 4043;  
float x = 2.13459;  
double dx = 1.1415927;  
char c = 'W';  
unsigned long ux = 2541567890;
```

Code:

```
#include <stdio.h>  
int main()  
{  
    int a = 125, b = 12345;  
    long ax = 1234567890;  
    short s = 4043;  
    float x = 2.13459;
```

```

double dx = 1.1415927;
char c = 'W';
unsigned long ux = 2541567890;

printf("a + c = %d\n", a + c);
printf("x + c = %f\n", x + c);
printf("dx + x = %f\n", dx + x);
printf("((int) dx) + ax = %ld\n", ((int) dx) + ax);
printf("a + x = %f\n", a + x);
printf("s + b = %d\n", s + b);
printf("ax + b = %ld\n", ax + b);
printf("s + c = %hd\n", s + c);
printf("ax + c = %ld\n", ax + c);
printf("ax + ux = %lu\n", ax + ux);

return 0;
}

```

Output:

```

[Running] cd "c:\Users\aniket\OneDrive\Desktop\cdac" && gcc displayvariables.c -o displayvariables &&
"c:\Users\aniket\OneDrive\Desktop\cdac\displayvariables
a + c = 212
x + c = 89.134590
dx + x = 3.276183
((int) dx) + ax = 1234567891
a + x = 127.134590
s + b = 16388
ax + b = 1234580235
s + c = 4130
ax + c = 1234567977
ax + ux = 3776135780

[Done] exited with code=0 in 0.757 seconds

```

7. Write a C program to convert specified days into years, weeks and days. Note: Ignore leap year.

Test Data : Number of days : 1329

Expected Output :

Years: 3

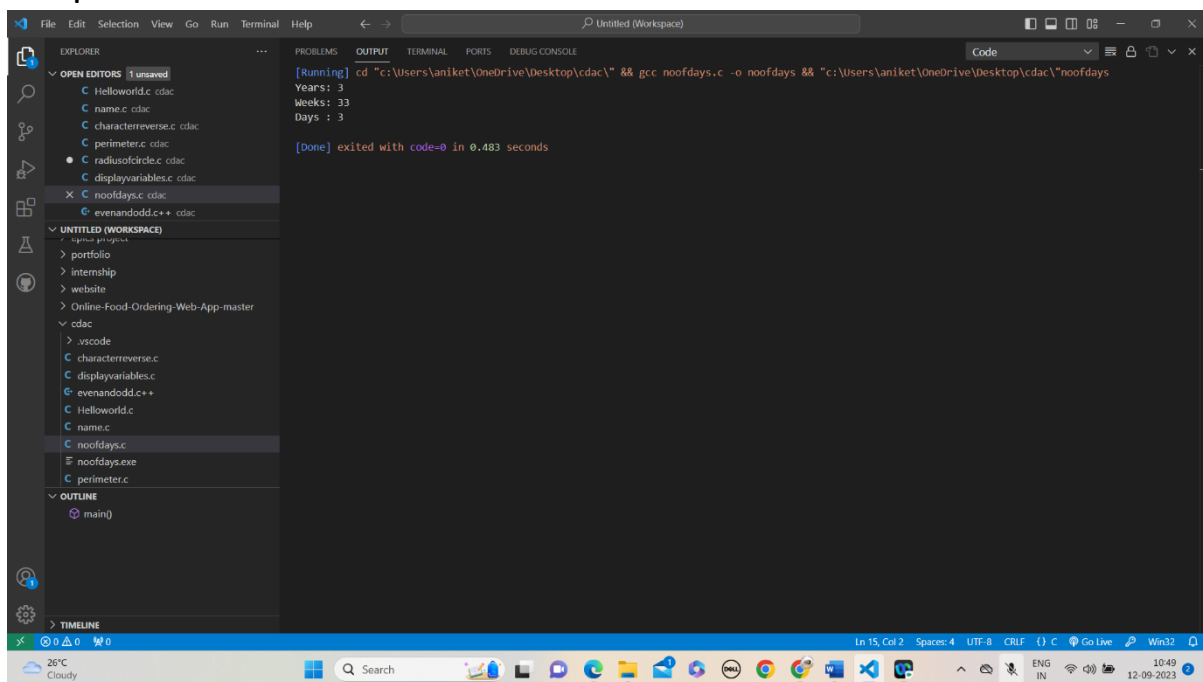
Weeks: 33 Days:3

Code:

```
#include<stdio.h>
int main()
{
    int days,weeks,years;
    days=1329;

    years=days/365;
    weeks=(days % 365)/7;
    days=days-((years*365)+(weeks*7));
    printf("Years: %d\n",years);
    printf("Weeks: %d\n",weeks);
    printf("Days : %d \n",days);
    return 0;
}
```

Output:



```
[Running] cd "c:\Users\aniket\OneDrive\Desktop\cdac\" && gcc noofdays.c -o noofdays && "c:\Users\aniket\OneDrive\Desktop\cdac\"noofdays
Years: 3
Weeks: 33
Days : 3

[Done] exited with code=0 in 0.483 seconds
```

8. Write a C program that accepts two integers from the user and calculates the sum of the two integers.

Test Data :

Input the first integer: 25

Input the second integer: 38

Expected Output: Sum of the above two integers = 63

Code:

```
#include <stdio.h>
int main()
{
    int x, y, sum;
    printf("\nInput the first integer: ");
    scanf("%d", &x);
    printf("\nInput the second integer: ");
    scanf("%d", &y);
    sum = x + y;
    printf("\nSum of the above two integers = %d\n", sum);
    return 0;
}
```

Output:

Output Clear

/tmp/5tULep6F9J.o  
Input the first integer: 25  
Input the second integer: 38  
Sum of the above two integers = 63

9. Write a C program that accepts two integers from the user and calculates the product of the two integers.

Test Data :

Input the first integer: 25

Input the second integer: 15

Code:

```
#include <stdio.h>
int main()
{
    int x, y, result;
    printf("Input the first integer: ");
    scanf("%d", &x);
    printf("\nInput the second integer: ");
    scanf("%d", &y);
    result = x * y;
```



```
printf("Product of the above two integers = %d\n", result);  
}
```

Output:

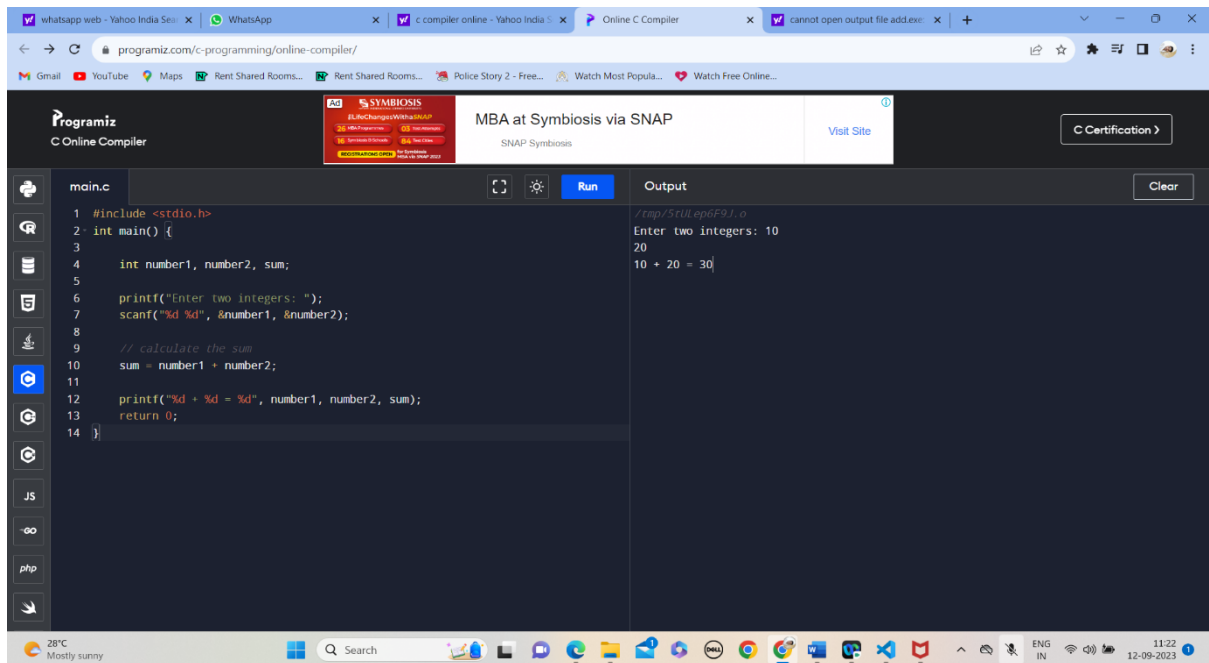
```
Output  
/tmp/5tULep6F9J.o  
Input the first integer: 25  
Input the second integer: 15  
Product of the above two integers = 375  
|
```

10. Write a program that prompts the user to enter two numbers, adds them together, and prints the result to the console.

Code:

```
#include <stdio.h>  
int main() {  
  
    int number1, number2, sum;  
  
    printf("Enter two integers: ");  
    scanf("%d %d", &number1, &number2);  
  
    // calculate the sum  
    sum = number1 + number2;  
  
    printf("%d + %d = %d", number1, number2, sum);  
    return 0;  
}
```

# Output:



The screenshot displays a web browser window with multiple tabs. The active tab is 'programiz.com/c-programming/online-compiler/'. The browser's address bar shows the URL. Below the browser window, a Windows taskbar is visible with various application icons and a system tray showing the date and time as 11:22 on 12-09-2023.

The online compiler interface has a dark theme. At the top, there's a header with the 'programiz C Online Compiler' logo, a banner for 'MBA at Symbiosis via SNAP', and a 'C Certification' button. The main area is split into two panels: a code editor on the left and an output window on the right.

The code editor shows a C program named 'main.c' with the following code:

```
1 #include <stdio.h>
2 int main() {
3
4     int number1, number2, sum;
5
6     printf("Enter two integers: ");
7     scanf("%d %d", &number1, &number2);
8
9     // calculate the sum
10    sum = number1 + number2;
11
12    printf("%d + %d = %d", number1, number2, sum);
13    return 0;
14 }
```

The output window on the right shows the execution results:

```
/tmp/STU1.ep6F91.o
Enter two integers: 10
20
10 + 20 = 30
```

The interface includes a 'Run' button to execute the code and a 'Clear' button to reset the output. A sidebar on the left contains icons for different programming languages like JS, PHP, and C.