

CSA0238
Harsita Ashok
192521086

Day : Basic Input/Output and Operators (2-8-2025)

1. Write a C program to add two integers.

Input : Get two integers say a and b

Process : Use relational operator(+) and add the integers (a+b)

Example:6+7

Output : 13

Code :

```
#include <stdio.h>
```

```
int main() {
```

```
    int num1=6, num2=7, sum;
```

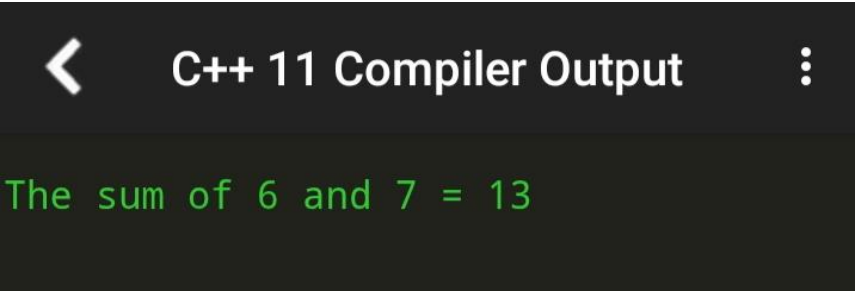
```
    sum = num1 + num2;
```

```
    printf("The sum of %d and %d = %d\n", num1, num2, sum);
```

```
    return 0;
```

```
}
```

Output:



```
< C++ 11 Compiler Output
```

```
The sum of 6 and 7 = 13
```

2. Write a program to swap two numbers using a temporary variable.

Input : Get two numbers say a and b

Process : Use a third variable say v and swap the digits

Example: a=10,b=20

Output : a=10,b=20

b=20,a=10

Code :

```
#include <stdio.h>
```

```
int main() {  
    int a, b, v;
```

```
    scanf("%d %d", &a, &b);
```

```
    printf("Before swap: a = %d, b = %d\n", a, b);
```

```
    v = a;
```

```
    a = b;
```

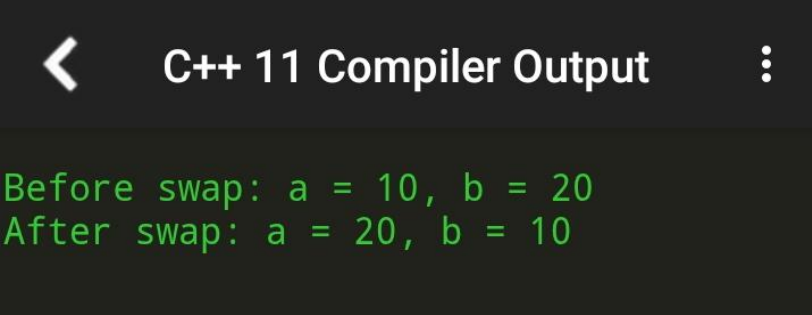
```
    b = v;
```

```
    printf("After swap: a = %d, b = %d\n", a, b);
```

```
    return 0;
```

```
}
```

Output :

A screenshot of a terminal window titled "C++ 11 Compiler Output". The window has a dark background. The output text is displayed in green. It shows "Before swap: a = 10, b = 20" on the first line and "After swap: a = 20, b = 10" on the second line. The terminal window has a back arrow icon on the left and a vertical ellipsis icon on the right of the title bar.

```
< C++ 11 Compiler Output ⋮  
  
Before swap: a = 10, b = 20  
After swap: a = 20, b = 10
```

3. Write a program to swap two numbers without using a temporary variable.

Input: Get two numbers say a and b

Process : Swap the numbers without using third variable

Output : a=10,b=20

b=20,a=10

Code :

```
#include <stdio.h>
```

```
int main() {  
    int a, b;
```

```
    scanf("%d %d", &a, &b);
```

```
    printf("Before swap: a = %d, b = %d\n", a, b);
```

```
    a = a + b;
```

```
    b = a - b;
```

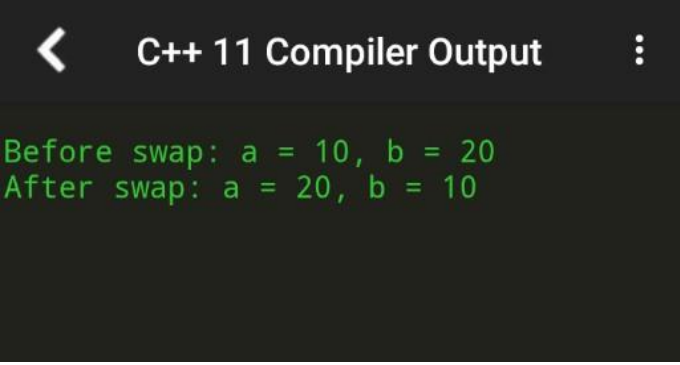
```
    a = a - b;
```

```
    printf("After swap: a = %d, b = %d\n", a, b);
```

```
    return 0;
```

```
}
```

Output :

A screenshot of a terminal window titled "C++ 11 Compiler Output". The terminal shows the output of a C++ program. The first line is "Before swap: a = 10, b = 20" and the second line is "After swap: a = 20, b = 10". Both lines are displayed in green text on a dark background.

```
< C++ 11 Compiler Output :  
Before swap: a = 10, b = 20  
After swap: a = 20, b = 10
```

4. Write a program to find the ASCII value of a character.

Input : Get a value say n

Process : print the input to get the asc key value

Example : 'b'

Output : The ASC key is 98

Code :

```
#include <stdio.h>
```

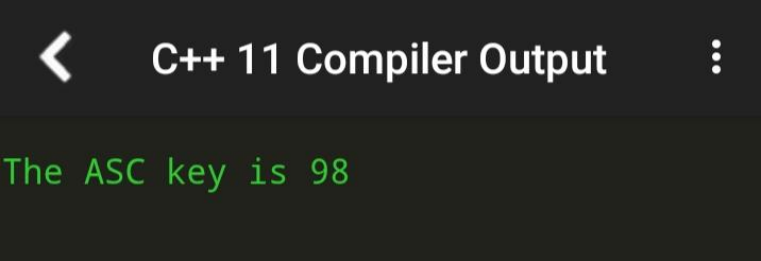
```
int main() {  
    char a,c;
```

```
    scanf("%c", &c);  
    int n;  
    char ch='a';  
    n=c;
```

```
    printf("The ASC key is %d\n ",n);
```

```
    return 0;  
}
```

Output :

A screenshot of a terminal window titled "C++ 11 Compiler Output". The window has a dark background. At the top, there is a title bar with a back arrow icon on the left, the text "C++ 11 Compiler Output" in the center, and a vertical ellipsis icon on the right. Below the title bar, the text "The ASC key is 98" is displayed in a green monospace font.

5. Write a program to calculate the area and perimeter of a rectangle.

Input : Get values for length and breadth

Process: Area=length ×breadth

Perimeter=2(length+breadth)

Example: length=4, breadth=5

Output: Area=20

Perimeter=18

Code :

```
#include <stdio.h>
```

```
int main() {
```

```
    float length, breadth, area, perimeter;
```

```
    scanf("%f%f", &length,&breadth);
```

```
    area = length * breadth;
```

```
    perimeter = 2 * (length + breadth);
```

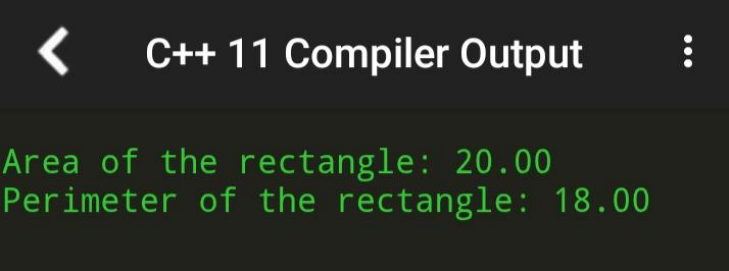
```
    printf("Area of the rectangle: %.2f\n", area);
```

```
    printf("Perimeter of the rectangle: %.2f\n", perimeter);
```

```
    return 0;
```

```
}
```

Output:



```
< C++ 11 Compiler Output
```

```
Area of the rectangle: 20.00
Perimeter of the rectangle: 18.00
```

6. Write a program to compute the simple interest.

Input: Get the values for principal,rate and time sat p,r,t

Process: $SI = (P \times R \times T) / 100$

Example p=1000,r=6,t=2

Output: SI= 120

Code:

```
#include <stdio.h>
```

```
int main() {
```

```
    float p=1000,r=6,t=2,SI;
```

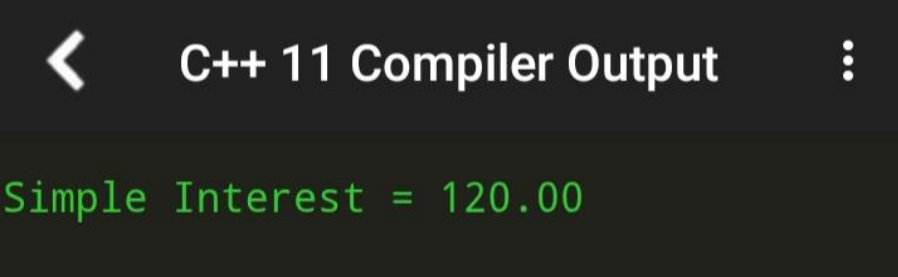
```
    SI = (p * r * t) / 100;
```

```
    printf("Simple Interest = %.2f\n", SI);
```

```
    return 0;
```

```
}
```

Output:

A screenshot of a terminal window titled "C++ 11 Compiler Output". The window has a dark background. At the top, there is a title bar with a back arrow icon on the left, the text "C++ 11 Compiler Output" in the center, and a vertical ellipsis icon on the right. Below the title bar, the output text "Simple Interest = 120.00" is displayed in a green monospace font.

7. Write a program to convert temperature from Celsius to Fahrenheit.

Input: Get a value say c

Process: $F = (9/5 \times C) + 32$

Example: $C = 40^\circ$

Output: $F = 104^\circ C$

Code:

```
#include <stdio.h>
int main() {
    float f,c;

    scanf("%f", &c);

    f = (9/5*c) + 32;

    printf("Temperature in Fahrenheit : %.0f\n",f);

    return 0;
}
```

Output:

A screenshot of a terminal window titled "C++ 11 Compiler Output". The window has a dark background. The output text "Temperature in Fahrenheit : 104" is displayed in a bright green monospace font. The terminal interface includes a back arrow icon on the left and a vertical ellipsis icon on the right of the title bar.

```
< C++ 11 Compiler Output :
```

```
Temperature in Fahrenheit : 104
```

8. Write a program to find the quotient and remainder of two integers.

Input: Get two integers say a and b

Process: Remainder =a%b

Quotient=a/b

Example:a=52, b=3

Output: Remainder=1

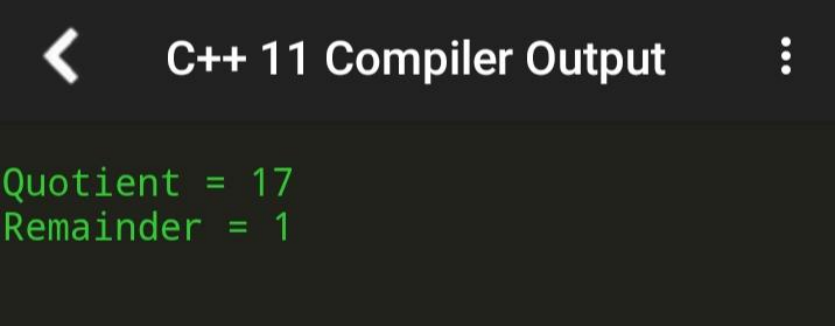
Quotient=17

Code:

```
#include <stdio.h>
```

```
int main() {  
    int a=52,b=3;  
    int quotient, remainder;  
  
    quotient = a/b;  
    remainder = a % b;  
  
    printf("Quotient = %d\n", quotient);  
    printf("Remainder = %d\n", remainder);  
  
    return 0;  
}
```

Output:

A screenshot of a terminal window titled "C++ 11 Compiler Output". The window has a dark background. The output text is displayed in green: "Quotient = 17" followed by "Remainder = 1" on the next line. The title bar includes a back arrow icon, the text "C++ 11 Compiler Output", and a vertical ellipsis icon.

9. Write a program to check whether a number is even or odd.

Input: Get a number say num

Process: if(num%2==0) then the num is even else it is odd

Example: num=22(even)

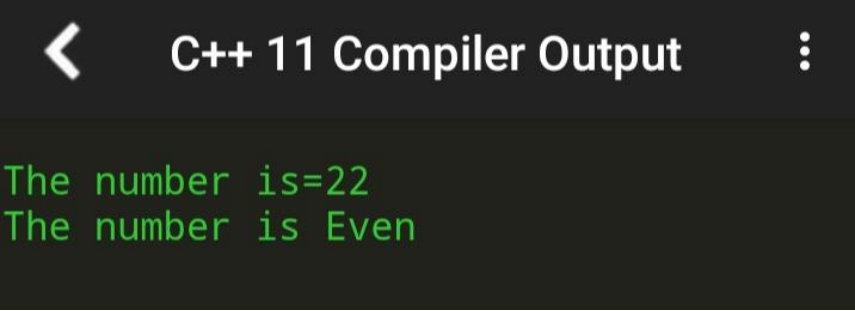
Output: Print whether the number is even or odd

Code:

```
#include <stdio.h>
```

```
int main() {  
    int a=22;  
    printf("The number is=%d\n",a);  
    {  
        if(a%2==0)  
            printf("The number is Even");  
        else  
            printf("The number is Odd");  
    }  
    return 0;  
}
```

Output:

A screenshot of a terminal window titled "C++ 11 Compiler Output". The window has a dark background. The output text is displayed in green: "The number is=22" on the first line and "The number is Even" on the second line.

```
< C++ 11 Compiler Output  
The number is=22  
The number is Even
```

10. Write a program to calculate the square and cube of a number.

Input: Get a number say n

Process: Square= $n \times n$

Cube= $n \times n \times n$

Example : 4

Output: Square=16


Cube=64

Code:

```
#include <stdio.h>
```

```
int main() {  
    int a=4, Square,Cube;  
    printf("The number is=%d\n",a);  
    {  
        Square=a*a;  
        Cube=a*a*a;  
        printf("Square = %d\n", Square);  
        printf("Cube = %d\n", Cube);  
    }  
    return 0;  
}
```

Output:



```
< C++ 11 Compiler Output  
The number is=4  
Square = 16  
Cube = 64
```