

1. Write a C program to add two integers.

IPO:

Input: Two integers (a, b)

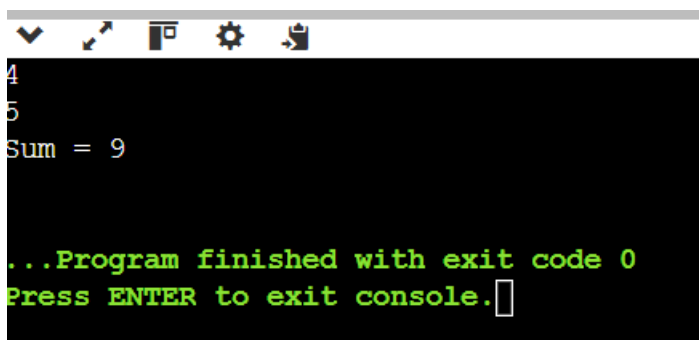
Process: Add the two integers (sum = a + b)

Output: Sum of the two integers

CODE:

```
#include <stdio.h>
void main()
{
    int a, b, sum;
    scanf("%d %d", &a, &b);
    sum = a + b;
    printf("Sum = %d\n", sum);
}
```

OUTPUT:

A screenshot of a terminal window showing the execution of a C program. The terminal has a black background with white and green text. At the top, there is a toolbar with icons for window management and settings. The output shows the numbers 4 and 5 on separate lines, followed by "Sum = 9". At the bottom, there is a green message: "...Program finished with exit code 0" and "Press ENTER to exit console." with a cursor at the end.

```
4
5
Sum = 9

...Program finished with exit code 0
Press ENTER to exit console.
```

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

IPO:

Input: Two integers (a, b)

Process:

- Store a in temp
- Assign b to a
- Assign temp to b

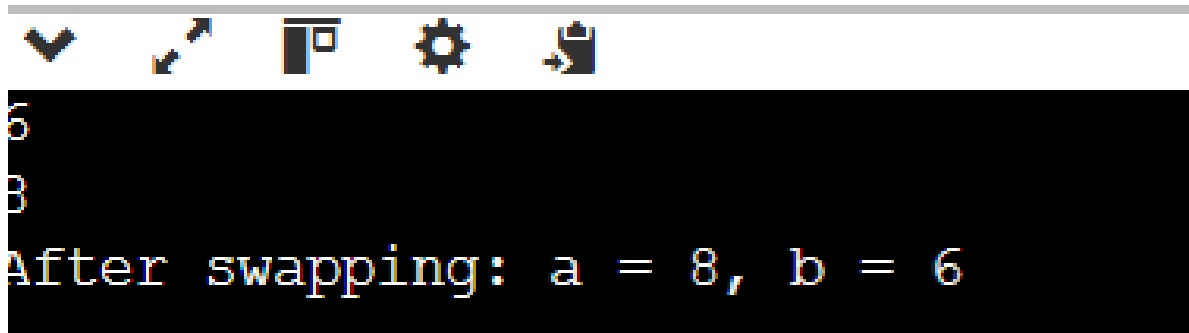
Output: Swapped values of a and b

CODE:

```
#include <stdio.h>

void main()
{
    int a, b, temp;
    scanf("%d %d", &a, &b);
    temp = a;
    a = b;
    b = temp;
    printf("After swapping: a = %d, b = %d\n", a, b);
}
```

OUTPUT:



```
6
8
After swapping: a = 8, b = 6
```

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

IPO:

Input: Two integers (a, b)

Process:

- $a = a + b$
- $b = a - b$
- $a = a - b$

Output: Swapped values of a and b

CODE:

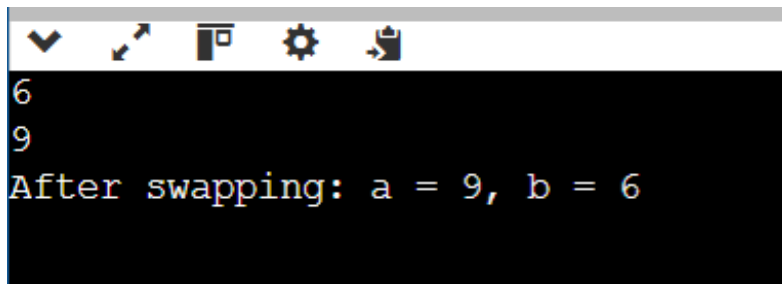
```
#include <stdio.h>
```

```
void main()
```

```
{
```

```
int a, b;  
  
scanf("%d %d", &a, &b);  
  
a = a + b;  
  
b = a - b;  
  
a = a - b;  
  
printf("After swapping: a = %d, b = %d\n", a, b);  
  
}
```

OUTPUT:



```
6  
9  
After swapping: a = 9, b = 6
```

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

IPO:

Input: A character (ch)

Process: Get the ASCII value using implicit casting (int equivalent of ch)

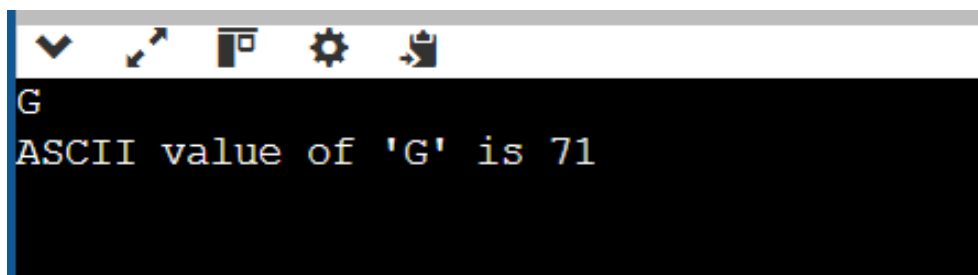
Output: ASCII value of the character

CODE:

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

```
void main()
{
    char ch;
    scanf(" %c", &ch);
    printf("ASCII value of '%c' is %d\n", ch, ch);
    return 0;
}
```

OUTPUT:

A screenshot of a terminal window with a dark background. The window has a title bar with standard icons (minimize, maximize, close, settings, and a terminal icon). The text inside the terminal shows the character 'G' being entered, followed by the output message: "ASCII value of 'G' is 71".

```
G
ASCII value of 'G' is 71
```

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

IPO:

Input: Length and width (float values)

Process:

. $\text{area} = \text{length} \times \text{width}$

. $\text{perimeter} = 2 \times (\text{length} + \text{width})$

Output: Area and perimeter of the rectangle

CODE:

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

```
void main()
```

```
{
```

```
    float length, width, area, perimeter;
```

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

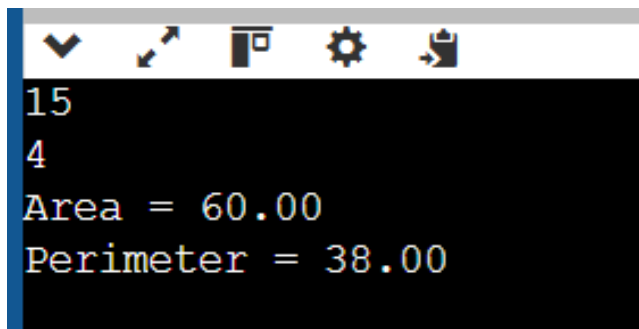
```
    area = length * width;
```

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

```
    printf("Area = %.2f\nPerimeter = %.2f\n", area,  
    perimeter);
```

```
}
```

OUTPUT:



```
15
4
Area = 60.00
Perimeter = 38.00
```

6. Write a program to compute the simple interest.

IPO:

Input: Principal, rate, time (float values)

Process: $\text{interest} = (\text{principal} \times \text{rate} \times \text{time}) / 100$

Output: Simple interest

CODE:

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

```
void main()
```

```
{
```

```
    float principal, rate, time, interest;
```

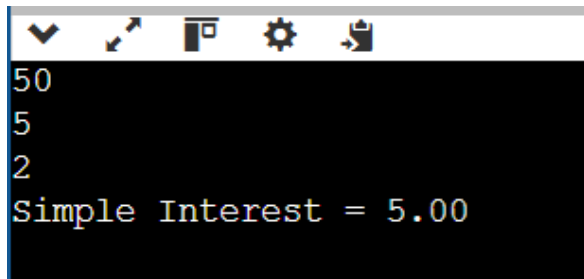
```
    scanf("%f %f %f", &principal, &rate, &time);
```

```
    interest = (principal * rate * time) / 100;
```

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

}

OUTPUT:



```
50
5
2
Simple Interest = 5.00
```

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

IPO:

Input: Temperature in Celsius (float)

Process: $\text{fahrenheit} = (\text{celsius} \times 9/5) + 32$

Output: Temperature in Fahrenheit

CODE:

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

```
void main()
```

```
{
```

```
    float celsius, fahrenheit;
```

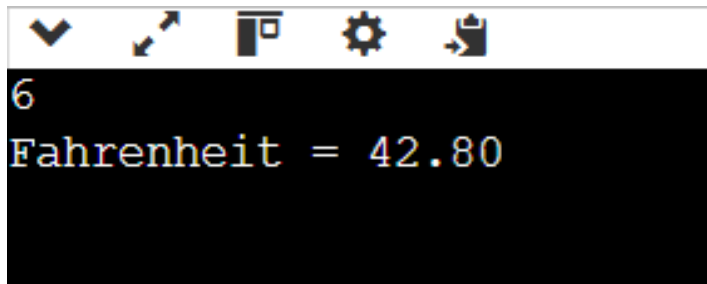
```
    scanf("%f", &celsius);
```

```
    fahrenheit = (celsius * 9 / 5) + 32;
```



```
printf("Fahrenheit = %.2f\n", fahrenheit);  
}
```

OUTPUT:



```
6  
Fahrenheit = 42.80
```

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

IPO:

Input: Dividend and divisor (integers)

Process:

- quotient = dividend / divisor
- remainder = dividend % divisor

Output: Quotient and remainder

CODE:

```
#include <stdio.h>  
  
void main()  
{
```

```
int dividend, divisor, quotient, remainder;

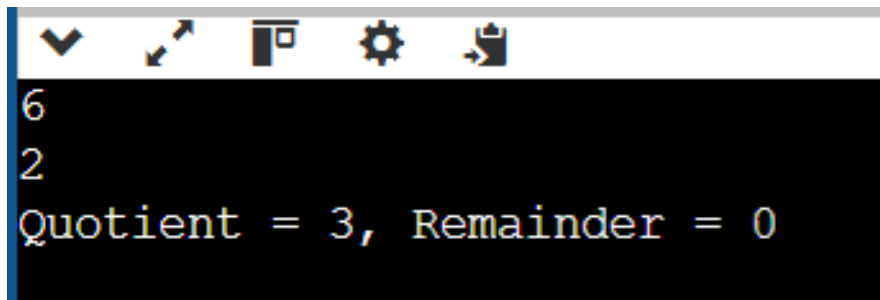
scanf("%d %d", &dividend, &divisor);

quotient = dividend / divisor;

remainder = dividend % divisor;

printf("Quotient = %d, Remainder = %d\n", quotient,
remainder);
}
```

OUTPUT:

A screenshot of a terminal window with a dark background. The input '6' and '2' is shown on the first two lines. The output 'Quotient = 3, Remainder = 0' is shown on the third line. The terminal has a toolbar at the top with icons for a dropdown menu, a cursor, a window, a gear, and a clipboard.

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

IPO:

Input: Integer number

Process: Check if $\text{number} \% 2 == 0$ (even) or else (odd)

Output: Message stating whether the number is even or odd

CODE:

```
#include <stdio.h>

void main()
{
    int n;

    scanf("%d", &n);

    if (n% 2 == 0)

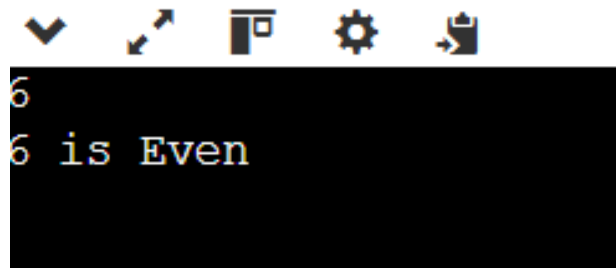
        printf("%d is Even\n", n);

    else

        printf("%d is Odd\n", n);

}
```

OUTPUT:



6
6 is Even

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

IPO:

Input: Integer number

Process:

- $\text{square} = \text{number} \times \text{number}$
- $\text{cube} = \text{number} \times \text{number} \times \text{number}$

Output: Square and cube of the number

CODE:

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

```
void main()
```

```
{
```

```
    int num, square, cube;
```

```
    scanf("%d", &num);
```

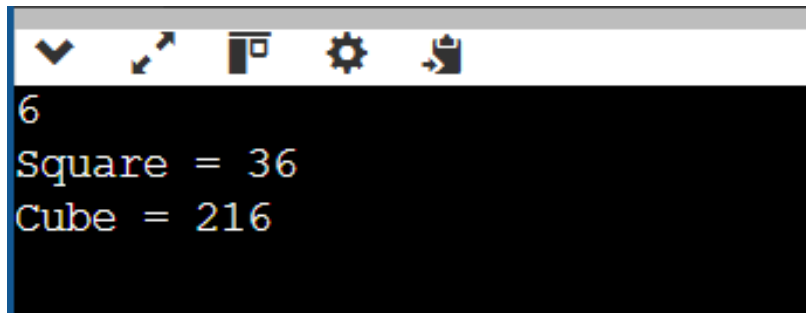
```
    square = num * num;
```

```
    cube = num * num * num;
```

```
    printf("Square = %d\nCube = %d\n", square, cube);
```

```
}
```

OUTPUT:



A screenshot of a code editor window. The window has a light gray title bar at the top. Below the title bar is a toolbar with five icons: a blue checkmark, a black and white arrow pointing up and to the right, a black square with a white square inside, a black gear, and a black document with a white arrow pointing to it. The main area of the window is black with white text. The text is as follows:

```
6
Square = 36
Cube = 216
```