



```
1 // Program to demonstrate the use of arithmetic operations
2 #include <stdio.h>
3 int main()
4 {
5     // Declare variables
6     int num1, num2;
7     char operator;
8
9     // Take user input for two numbers
10    printf("Enter two numbers: ");
11    scanf("%d%d", &num1, &num2);
12
13    // Take user input for operator
14    printf("Enter operator (+,-,*,/): ");
15    scanf(" %c", &operator);
16
17    float result;
18
19    if (operator== '+')
20    {
21        result = num1 + num2;
22    }
23    else if (operator== '-')
24    {
25        result = num1 - num2;
26    }
27    else if (operator== '*')
28    {
29        result = num1 * num2;
30    }
31    else if (operator== '/')
32    {
33        if (num2 != 0)
34        {
35            result = (float)num1 / num2;
36        }
37        else
38        {
39            printf("Cannot divide by zero");
40            return 1;
41        }
42    }
43    else
44    {
45        printf("Invalid operator");
46        return 1;
47    }
48
49    // Print the result
50    printf("%d %c %d = %.2f", num1, operator, num2, result);
51    return 0;
52 }
53
```

Output:

```
PROBLEMS  OUTPUT  TERMINAL  CODEWHISPERER REFERENCE LOG  COMMENTS  DEBUG CONSOLE

> ./question1
Enter two numbers: 23 43
Enter operator (+,-,*,/): *
23 * 43 = 989.00%

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```

2. Program to convert number of days into days and months.

Code

```
1 // Program to convert number of days into days and months
2 #include <stdio.h>
3 int main()
4 {
5     int days, months;
6     printf("Enter number of days: ");
7     scanf("%d", &days);
8     months = days / 30;
9     days = days % 30;
10    printf("Months = %d Days = %d", months, days);
11    return 0;
12 }
```

Output

```
PROBLEMS  OUTPUT  TERMINAL  CODEWHISPERER REFERENCE LOG  COMMENTS  DEBUG CONSOLE

> ./question2
Enter number of days: 487
Months = 16 Days = 7%

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```

3. Program that reads time in seconds and converts it into hour, minute and seconds.

Code

```
1 // Program that reads time in seconds and converts it in to hour, minute and seconds
2 #include <stdio.h>
3 int main()
4 {
5     int sec;
6     printf("Enter time in seconds: ");
7     scanf("%d", &sec);
8     int hour = sec / 3600;
9     int rsec = sec % 3600;
10    int minute = rsec / 60;
11    sec = rsec % 60;
12    printf("%d hour, %d minute, and %d sec", hour, minute, sec);
13    return 0;
14 }
```

Output

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS E:\Manish\CProgramming\assignment5> ./question3
Enter time in seconds: 8563
2 hour, 22 minute, and 43 sec
PS E:\Manish\CProgramming\assignment5> |
```

4. Program to print six digit integers in reverse order.

Code

```

1 // Program to print a six digit integer in reverse order
2 #include <stdio.h>
3 int main()
4 {
5     // Take user input for a six-digit number
6     int number;
7     printf("Enter a six-digit number: ");
8     scanf("%d", &number);
9     if (number >= 100000 && number <= 999999)
10    {
11
12        int digit6 = number % 10;
13        int digit5 = (number / 10) % 10;
14        int digit4 = (number / 100) % 10;
15        int digit3 = (number / 1000) % 10;
16        int digit2 = (number / 10000) % 10;
17        int digit1 = number / 100000;
18
19        printf("The number in reverse order is: %d%d%d%d%d%d", digit6, digit5, digit4, digit3, digit2, digit1);
20    }
21    else
22    {
23        printf("Invalid Input. Please enter a six-digit number");
24    }
25    return 0;
26 }

```

Output

```

PROBLEMS  OUTPUT  TERMINAL  CODEWHISPERER REFERENCE LOG  COMMENTS  DEBUG CONSOLE

> ./question4
Enter a six-digit number: 345213
The number in reverse order is: 312543

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```

5. Program to sum the digits of a positive integer which is 5 digits long.
Code

```

1 // Program to sum the digits of a positive integer which is 5 digits long
2 #include <stdio.h>
3 int main()
4 {
5     int number;
6     // User inputs
7     printf("Enter a 5 digit number: ");
8     scanf("%d", &number);
9
10    if (number < 10000 || number > 99999)
11    {
12        printf("Invalid number. Please enter a 5 digit number!");
13    }
14    else
15    {
16
17        int digit1 = number / 10000;
18        int digit2 = (number / 1000) % 10;
19        int digit3 = (number / 100) % 10;
20        int digit4 = (number / 10) % 10;
21        int digit5 = number % 10;
22
23        int sum = digit1 + digit2 + digit3 + digit4 + digit5;
24        printf("The sum of the digits is %d", sum);
25    }
26    return 0;
27 }

```

Output

```

PROBLEMS  OUTPUT  TERMINAL  CODEWHISPERER REFERENCE LOG  COMMENTS  DEBUG CONSOLE

> ./question5
Enter a 5 digit number: 54320
The sum of the digits is 14
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```

6. Program that demonstrates the use of relational operators.

Code

```
1 // Program that demonstrates the use of relational operators
2 #include <stdio.h>
3 int main()
4 {
5     int a, b;
6     printf("Enter two numbers: ");
7     scanf("%d %d", &a, &b);
8     printf("a == b: %d\n", a == b);
9     printf("a != b: %d\n", a != b);
10    printf("a > b: %d\n", a > b);
11    printf("a < b: %d\n", a < b);
12    printf("a >= b: %d\n", a >= b); // here 0 represents false and 1 represents true
13    printf("a <= b: %d\n", a <= b);
14    return 0;
15 }
```

Output

```
PROBLEMS  OUTPUT  TERMINAL  CODEWHISPERER REFERENCE LOG  COMMENTS  DEBUG CONSOLE

> ./question6
Enter two numbers: 5 5
a == b: 1
a != b: 0
a > b: 0
a < b: 0
a >= b: 1
a <= b: 1
```

```
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```

7. Program that demonstrates the use of logical operators

Code

```

1 // Program that demonstrates the use of logical operators
2 #include <stdio.h>
3 int main()
4 {
5     int x = 25, y = 10, z = 15;
6     printf("x > y && x > z: %d\n", x > y && x > z);
7     printf("x > y || x > z: %d\n", x > y || x > z);
8     printf("!(x > y): %d\n", !(x > y));
9     printf("x < z && y < z: %d\n", x < z && y < z);
10    printf("x < z || y < z: %d\n", x < z || y < z);
11    return 0;
12 }

```

Output

```

PROBLEMS  OUTPUT  TERMINAL  CODEWHISPERER REFERENCE LOG  COMMENTS  DEBUG CONSOLE

> ./question7
x > y && x > z: 1
x > y || x > z: 1
!(x > y): 0
x < z && y < z: 0
x < z || y < z: 1

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```

8. Program that finds the largest among two integers using a conditional operator.

Code

```

1 // Program that finds the larger among two integers using conditional operator
2 #include <stdio.h>
3 int main()
4 {
5     int a, b;
6     printf("Enter two numbers: ");
7     scanf("%d %d", &a, &b);
8     a > b ? printf("%d is larger", a) : printf("%d is larger", b);
9     return 0;
10 }

```

Output

```

PROBLEMS  OUTPUT  TERMINAL  CODEWHISPERER REFERENCE LOG  COMMENTS  DEBUG CONSOLE

> ./question8
Enter two numbers: 100 200
200 is larger

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```

9. Program that finds the largest among four integers using a conditional operator.

Code

```

1 // Program that finds the largest among four integers using conditional operator
2 #include <stdio.h>
3 int main()
4 {
5     int n1, n2, n3, n4;
6     printf("Enter four integers: ");
7     scanf("%d %d %d %d", &n1, &n2, &n3, &n4);
8     int larg1 = n1 > n2 ? n1 : n2;
9     int larg2 = larg1 > n3 ? larg1 : n3;
10    int largest = larg2 > n4 ? larg2 : n4;
11    printf("Largest among %d, %d, %d and %d is %d", n1, n2, n3, n4, largest);
12    return 0;
13 }

```

Output


```
PROBLEMS OUTPUT TERMINAL CODEWHISPERER REFERENCE LOG COMMENTS DEBUG CONSOLE

> ./question9
Enter four integers: 23 -54 2 22
Largest among 23, -54, 2 and 22 is 23%

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```

10. Program that demonstrates the use of bitwise logical operators.

Code

```
1 // Program that demonstrates the use of bitwise logical operators
2 #include <stdio.h>
3 int main()
4 {
5     int num1 = 505, num2 = 215;
6     int AND, OR, XOR;
7     AND = num1 & num2;
8     OR = num1 | num2;
9     XOR = num1 ^ num2;
10    printf("AND = %d\n", AND);
11    printf("OR = %d\n", OR);
12    printf("XOR = %d\n", XOR);
13    return 0;
14 }
```

Output

```
PROBLEMS OUTPUT TERMINAL CODEWHISPERER REFERENCE LOG COMMENTS DEBUG CONSOLE

> ./question10
AND = 209
OR = 511
XOR = 302

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```

11. Program that demonstrates the use of bitwise shift operators.

Code

```
1 // Program that demonstrates the use of bitwise shift operators.
2 #include <stdio.h>
3 int main()
4 {
5     int num1 = 157;
6     int left, right;
7     left = num1 << 3;
8     right = num1 >> 3;
9     printf("Left shift of %d by 3 is %d\n", num1, left);
10    printf("Right shift of %d by 3 is %d\n", num1, right);
11    return 0;
12 }
```

Output

```
PROBLEMS  OUTPUT  TERMINAL  CODEWHISPERER REFERENCE LOG  COMMENTS  DEBUG CONSOLE

> ./question11
Left shift of 157 by 3 is 1256
Right shift of 157 by 3 is 19

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```

12. Program that demonstrates the use of sizeof() operator.

Code

```
1 // Program that demonstrates the use of sizeof() operator.
2 #include <stdio.h>
3 int main()
4 {
5     int num;
6     printf("Size of int: %d bytes\n", sizeof(num));
7     printf("Size of char: %d bytes\n", sizeof(char));
8     printf("Size of float: %d bytes\n", sizeof(float));
9     printf("Size of double: %d bytes\n", sizeof(double));
10    printf("double Constant Occupies => %d bytes\n", sizeof(3.14));
11    return 0;
12 }
```

Output

```
PROBLEMS  OUTPUT  TERMINAL  CODEWHISPERER REFERENCE LOG  COMMENTS  DEBUG CONSOLE

> ./question12
Size of int: 4 bytes
Size of char: 1 bytes
Size of float: 4 bytes
Size of double: 8 bytes
double Constant Occupies => 8 bytes

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```