

C Programs for Practice (Basics)

1. C Program to print "Hello World"

```
// Simple C program to display "Hello World"

// Header file for input output functions
#include <stdio.h>

// Main function: entry point for execution
int main() {

    // writing print statement to print hello world
    printf("Hello World");

    return 0;
}
```

2. C Program to print your own name

```
// C Program to Print Your Own Name using printf
#include <stdio.h>

int main() {

    // Printing your name "Rahul" on the output screen
    printf("Rahul");

    return 0;
}
```

3. C Program to add two numbers

```
// C program to add two numbers
#include <stdio.h>

int main() {
    int a, b, sum = 0;

    // Read two numbers from the user
    printf("Enter two integers: ");
    scanf("%d %d", &a, &b);

    // Calculate the addition of a and b
    // using '+' operator
    sum = a + b;
```

```
printf("Sum: %d", sum);

return 0;
}
```

4. C Program to check Prime Number

```
// C Program to check for prime number using
// Simple Trial Division
#include <stdbool.h>
#include <stdio.h>

int main() {
    int n = 29;

    int cnt = 0;

    // If number is less than/equal to 1,
    // it is not prime
    if (n <= 1)
        printf("%d is NOT prime\n", n);
    else {

        // Check for divisors from 1 to n
        for (int i = 1; i <= n; i++) {

            // Check how many number is divisible
            // by n
            if (n % i == 0)
                cnt++;
        }

        // If n is divisible by more than 2 numbers
        // then it is not prime
        if (cnt > 2)
            printf("%d is NOT prime\n", n);

        // else it is prime
        else
            printf("%d is prime", n);
    }

    return 0;
}
```

5. C Program to print the ASCII value of a character

```
// C program to print ASCII Value of Character using
// implicit conversion with format specifier.
#include <stdio.h>

int main() {
    char c = 'k';

    // %d displays the integer value of
    // a character
    // %c displays the actual character
    printf("The ASCII value of %c is %d", c, c);
    return 0;
}
```

6. C Program to swap two numbers

```
// C Program to Swap Two Numbers using a
// Temporary Variable
#include <stdio.h>

int main() {
    int a = 5, b = 10, temp;

    // Swapping values of a and b
    temp = a;
    a = b;
    b = temp;

    printf("a = %d, b = %d\n", a, b);
    return 0;
}
```

7. C Program to convert temperature in Fahrenheit to temperature in Celsius

```
// C Program to convert
// Fahrenheit to Celsius
#include <stdio.h>

// Function to convert Degree
// Fahrenheit to Degree Celsius
float fahrenheit_to_celsius(float f)
{
    return ((f - 32.0) * 5.0 / 9.0);
}
```

```
// Driver code
int main()
{
    float f = 40;

    // Passing parameter to function
    printf("Temperature in Degree Celsius : %0.2f",
           fahrenheit_to_celsius(f));
    return 0;
}
```

8. C Program to find the size of int, float, double and char

```
// C Program to Find the Size of int, float, double, and
// char using sizeof operator directly
#include <stdio.h>

int main() {

    // Determine and Print the size of int
    printf("Size of int: %u bytes\n", sizeof(int));

    // Determine and Print the size of float
    printf("Size of float: %u bytes\n", sizeof(float));

    // Determine and Print the size of double
    printf("Size of double: %u bytes\n", sizeof(double));

    // Determine and Print the size of char
    printf("Size of char: %u bytes\n", sizeof(char));

    return 0;
}
```

9. C Program to print prime numbers from 1 to N

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

// This function is to check
// if a given number is prime
bool isPrime(int n)
{
    // 0 and 1 are not prime numbers
```

```

    if (n == 1 || n == 0)
        return false;

    // Check for divisibility from 2 to sqrt(n)
    for (int i = 2; i <= sqrt(n); i++) {
        if (n % i == 0)
            return false;
    }
    return true;
}

// Driver code
int main()
{
    int N = 50;

    // Check every number from 1 to N
    for (int i = 1; i <= N; i++) {
        if (isPrime(i)) {
            printf("%d ", i);
        }
    }

    return 0;
}

```

10. C Program to calculate Simple Interest

```

// C program to find the simple interest
#include <stdio.h>

int main() {

    // Input values
    float P = 1, R = 1, T = 1;

    // Calculate simple interest
    float SI = (P * T * R) / 100;

    // Print Simple Interest
    printf("Simple Interest = %f\n", SI);

    return 0;
}

```

11. C Program to calculate Compound Interest

```
// C program to calculate Compound Interest
#include <stdio.h>

// For using pow function we must
// include math.h
#include<math.h>

// Driver code
int main()
{
    // Principal amount
    double principal = 10000;

    // Annual rate of interest
    double rate = 5;

    // Time
    double time = 2;

    // Calculating compound Interest
    double Amount = principal *
        ((pow((1 + rate / 100),
            time)));
    double CI = Amount - principal;

    printf("Compound Interest is : %lf",CI);
    return 0;
}
```

12. C Program for Area and Perimeter of Rectangle

```
// C program to demonstrate the
// area and perimeter of rectangle
#include <stdio.h>

int main()
{
    int l = 10, b = 10;
    printf("Area of rectangle is : %d", l * b);
    printf("\nPerimeter of rectangle is : %d", 2 * (l + b));
    return 0;
}
```