Program – I

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

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

Output

```
Area of rectangle is : 100
Perimeter of rectangle is : 40
```

Program – II

Find the Largest Number Using if-else Statements

The idea is to use the compound expression where each number is compared with the other two to find out which one is the maximum of them.

Algorithm

Check if A is greater than or equal to both B and C, A is the largest number.
Check if B is greater than or equal to both A and C, B is the largest number.
Check if C is greater than or equal to both A and B, C is the largest number.

C Program to Find the Largest Number Using if Statement

```
// C program to find the maximum number out of the three
// given numbers using if-else statement
#include <stdio.h>
 int main()
{ int A, B, C;
   printf("Enter the numbers A, B and C: ");
   scanf("%d %d %d", &A, &B, &C);
    // finding max using compound expressions
   if (A >= B && A >= C)
      printf("%d is the largest number.", A);
    else if (B >= A && B >= C)
      printf("%d is the largest number.", B);
    else
      printf("%d is the largest number.", C);
    return 0;
}
```

Output

```
Enter the numbers A, B and C: 32764 is the largest number.
```

Program – III

```
C Program to demonstrate
// Sum of Natural Numbers
// using while loops

#include <stdio.h>
int main()
{
    int i, s = 0;
    int n = 10;
    i = 1;

    // while loop executes
    // the statements until the
    // condition is false
    while (i <= n) {

        // adding natural numbers
        // up to given number n
        s = s+i;
        i++;
    }
    // printing the result
    printf("Sum = %d", s);
    return 0;
```

Output
Sum = 55

Program – IV

Approach 2: Using for loop

For loop iterates up to n number of times.

- C

```
// C Program to demonstrate

// Sum of Natural Numbers

// using for loops

#include <stdio.h>
```

```
int main()

{ int i, s = 0;

    int n = 10;

    for (i = 0; i <= n; i++) {

       // adding natural numbers

    // up to given number n

        s += i;

    }

    // printing the result

    printf("Sum = %d", s);

    return 0;

}
```

Program V

Prime numbers are natural numbers that are divisible by only 1 and the number itself. In other words, prime numbers are positive integers greater than 1 with exactly two factors, 1 and the number itself. Some of the prime numbers include 2, 3, 5, 7, 11, 13, etc.

Using For Loop

Below is the C program to check prime numbers using for loop:

- C

```c
// C program to demonstrate whether
// a number is prime or not using
// for loop
#include <stdio.h>


// Defining the function
int primenumber(int number)
{
    int i;


    // Condition for checking the
    // given number is prime or
    // not
    for (i = 2; i <= number / 2; i++)
    {
        if (number % i != 0)
            continue;
        else
            return 1;
    }
```

```
    return 0;

}



// Driver code

int main()

{

    int num = 7, res = 0;



    // Calling the function

    res = primenumber(num);

    if (res == 0)

        printf("%d is a prime number", num);

    else

        printf("%d is not a prime number", num);

}
```

Output

```
7 is a prime number
```