main.cpp

Run

```cpp
#include <iostream>

int factorial(int n) {
    if (n == 0 || n == 1)
        return 1;
    else
        return n * factorial(n - 1);
}

int main() {
    int num;
    std::cout << "Enter a number: ";
    std::cin >> num;
    std::cout << "Factorial of " << num << " is " << factorial(num) << std
        ::endl;
    return 0;
}
```

Output

Clear

```
/tmp/Bqow4G9rAc.o
Enter a number: 5
Factorial of 5 is 120
```

main.cpp

Run

Output

Clear

```cpp
//prime or not

#include <iostream>
#include <cmath>

bool isPrime(int n) {
    if (n <= 1)
        return false;
    for (int i = 2; i <= std::sqrt(n); i++)
        if (n % i == 0)
            return false;
    return true;
}

int main() {
    int num;
    std::cout << "Enter a number: ";
    std::cin >> num;
    if (isPrime(num))
        std::cout << num << " is a prime number." << std::endl;
    else
        std::cout << num << " is not a prime number." << std::endl;
    return 0;
}
```

```
/tmp/Bqow4G9rAc.o
Enter a number: 3
3 is a prime number
```

main.cpp

Run

Output

Clear

```cpp
//reverse of a string

#include <iostream>
#include <string>

std::string reverseString(std::string str) {
    std::string reversed = "";
    for (int i = str.length() - 1; i >= 0; i--)
        reversed += str[i];
    return reversed;
}

int main() {
    std::string input;
    std::cout << "Enter a string: ";
    std::getline(std::cin, input);
    std::cout << "Reversed string: " << reverseString(input) << std::endl;
    return 0;
}
```

```
/tmp/Bqow4G9rAc.o
Enter a string: good
Reversed string:doog
```

main.cpp

Run

Output

Clear

```cpp
//MAX and MIN

#include <iostream>

void minMax(int arr[], int size, int& min, int& max) {
    min = arr[0];
    max = arr[0];
    for (int i = 1; i < size; i++) {
        if (arr[i] < min)
            min = arr[i];
        if (arr[i] > max)
            max = arr[i];
    }
}

int main() {
    int arr[] = {3, 7, 12, 9, 5};
    int size = sizeof(arr) / sizeof(arr[0]);
    int min, max;
    minMax(arr, size, min, max);
    std::cout << "Minimum element: " << min << ", Maximum element: " << max
        << std::endl;
    return 0;
}
```

```
/tmp/Bqow4G9rAc.o
Minimum element: 3, Maximum element: 12
```

main.cpp

Run

```cpp
//GCD

#include <iostream>

int gcd(int a, int b) {
    if (b == 0)
        return a;
    return gcd(b, a % b);
}

int main() {
    int num1, num2;
    std::cout << "Enter two numbers: ";
    std::cin >> num1 >> num2;
    std::cout << "GCD of " << num1 << " and " << num2 << " is " << gcd(num1
        , num2) << std::endl;
    return 0;
}
```

Output

Clear

```
/tmp/Bqow4G9rAc.o
Enter two numbers: 2 4
GCD of 2 and 4 is 2
```

main.cpp

Run

```cpp
//Number of words in a string

#include <iostream>
#include <string>

int countElements(const std::string& str) {
    int count = 0;
    for (char c : str)
        if (c != ' ')
            count++;
    return count;
}

int main() {
    std::string input;
    std::cout << "Enter a string: ";
    std::getline(std::cin, input);
    std::cout << "Number of elements in the string: " << countElements
        (input) << std::endl;
    return 0;
}
```

Output

Clear

```
/tmp/K963E8HJX1.o
Enter a string: programming language
Number of elements in the string:2
```

main.cpp

Run

```cpp
//Convert Celsius and Fahrenheit

#include <iostream>

double celsiusToFahrenheit(double celsius) {
    return (celsius * 9 / 5) + 32;
}

double fahrenheitToCelsius(double fahrenheit) {
    return (fahrenheit - 32) * 5 / 9;
}

int main() {
    double celsius, fahrenheit;
    std::cout << "Enter temperature in Celsius: ";
    std::cin >> celsius;
    std::cout << "Temperature in Fahrenheit: " << celsiusToFahrenheit
        (celsius) << std::endl;

    std::cout << "\nEnter temperature in Fahrenheit: ";
    std::cin >> fahrenheit;
    std::cout << "Temperature in Celsius: " << fahrenheitToCelsius
        (fahrenheit) << std::endl;
    return 0;
}
```

Output

Clear

```
/tmp/I7LDqQ6QVf.o
Enter temperature in Celsius: 34
Temperature in Fahrenheit:93.2
```

main.cpp

Run

```cpp
//area of a circle

#include <iostream>
#include <cmath>

double circleArea(double radius) {
    return M_PI * radius * radius;
}

int main() {
    double radius;
    std::cout << "Enter the radius of the circle: ";
    std::cin >> radius;
    std::cout << "Area of the circle: " << circleArea(radius) << std::endl;
    return 0;
}

```

Output

Clear

```
/tmp/I7LDqQ6QVf.o
Enter the radius of the circle: 2
Area of the circle:12.56
```

main.cpp

Run

Output

Clear

```cpp
//string is palindrome or not

#include <iostream>
#include <string>

bool isPalindrome(const std::string& str) {
    int start = 0;
    int end = str.length() - 1;
    while (start < end) {
        if (str[start] != str[end])
            return false;
        start++;
        end--;
    }
    return true;
}

int main() {
    std::string input;
    std::cout << "Enter a string: ";
    std::getline(std::cin, input);
    if (isPalindrome(input))
        std::cout << "The string is a palindrome." << std::endl;
    else
        std::cout << "The string is not a palindrome." << std::endl;
    return 0;
}
```

```
/tmp/I7LDqQ6QVf.o
Enter a string: abba
The string is a palindrome
```