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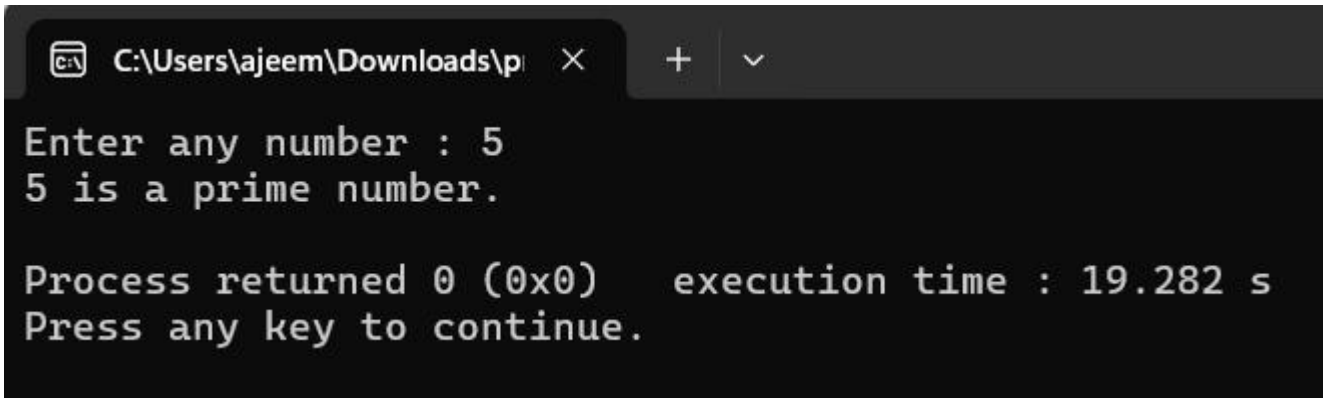
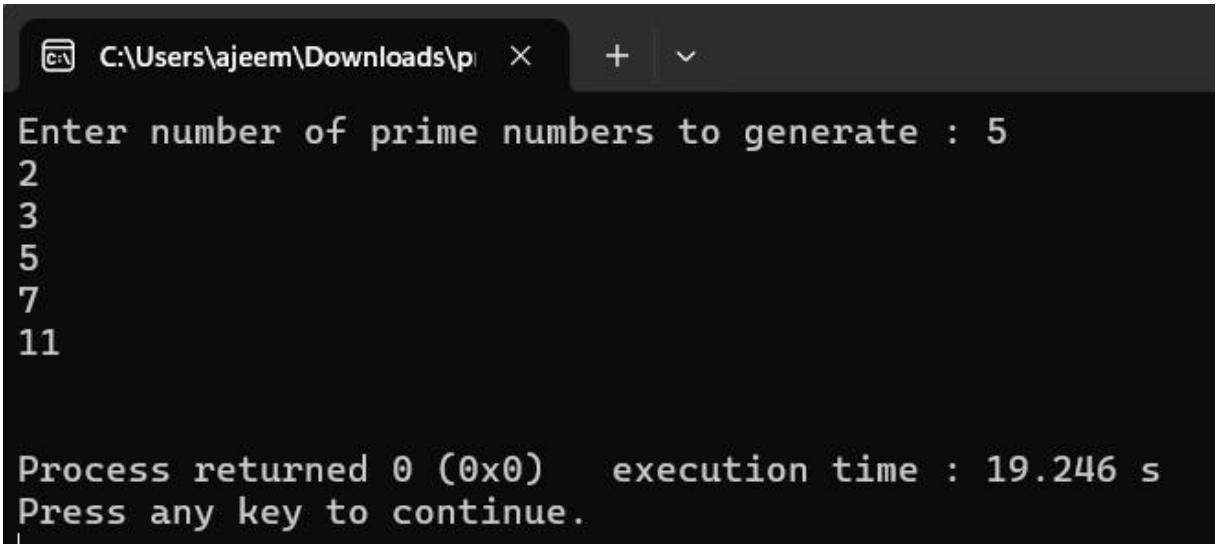
1. Write a program to check whether a number is prime or not.

```
#include <iostream>
using namespace std;

bool isprime(int number){
    if(number <= 1) return false;
    for(int i =2; i * i <= number; i++){
        if(number % i == 0) return false;
    }
    return true;
}

int main(){
    int num;

    cout<<"Enter any number : ";
    cin>>num;

    if(isprime(num)){
        cout<<num<<" is a prime number. "<<endl;
    }
    else{
        cout<<num<<" is not prime number. ";
    }

    return 0;
}
```



2. Write a program to generate first N prime numbers. Accept N from user.

```
#include <iostream>
using namespace std;

bool isprime(int number){
   // if(number <= 1) return false;
   for(int i = 2; i * i <=number; i++){
      if(number % i ==0) return false;
   }
   return true;
}

void generateprime(int n){
   int count = 0;
   int number = 2;

   while(count < n){
      if(isprime(number)){
         cout<<number<<endl;
         count++;
      }
      number++;
   }
   cout<<endl;
}
int main(){
   int n;

   cout<<"Enter number of prime numbers to generate : ";
   cin>>n;

   generateprime(n);

   return 0;
}
```



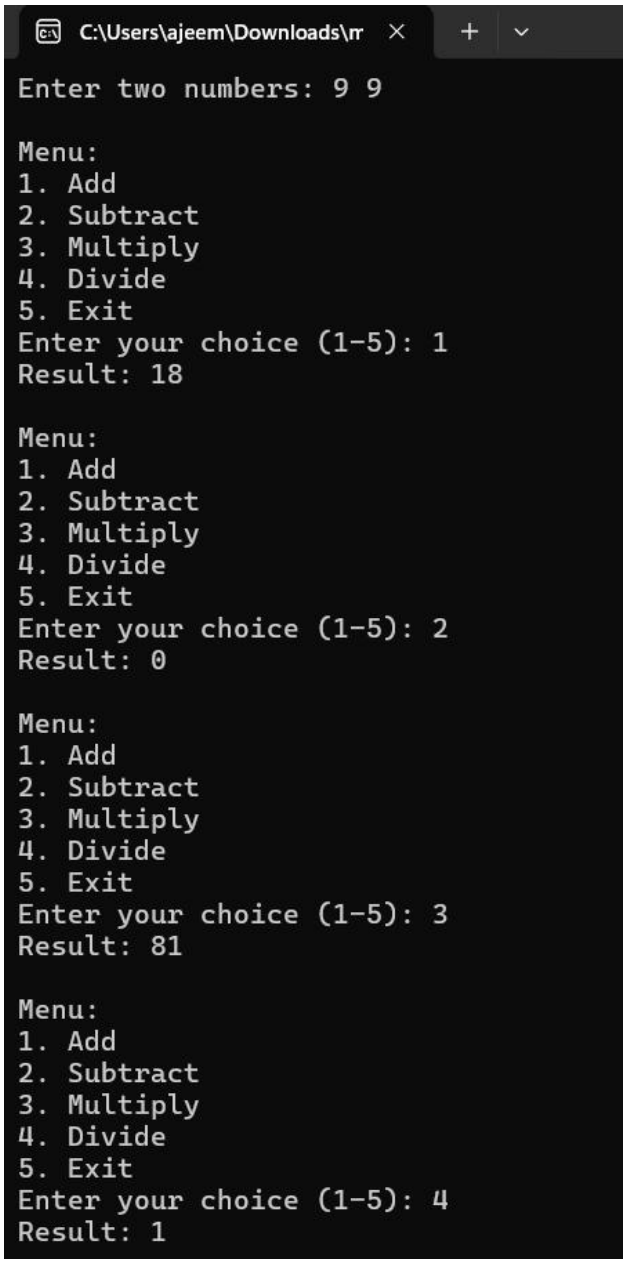
3. Write a program to generate following pyramid
A
AB
ABC
..... A.....Z

```
#include <iostream>
using namespace std;

int main() {
   int S = 26;

   for (int i = 1; i <= S; i++) {
      for (char ch = 'A'; ch < 'A' + i; ch++) {
         cout << ch;
      }
      cout << endl;
   }

   return 0;
}
```

4. Write a menu driven program to perform mathematical operations on two numbers.
1. Add
2. Sub
3. Mul
4. Div
5. Exit
accept the menu option and numbers form user.

```
#include <iostream>
using namespace std;

void add(double a, double b){
   cout << "Result: " << (a + b) << endl;
}
void substract(double a, double b){
   cout << "Result: " << (a - b) << endl;
}
void multiply(double a, double b){
   cout << "Result: " << (a * b) << endl;
}
void divide(double a, double b){
   cout << "Result: " << (a / b) << endl;
}

int main() {
   double num1, num2;
   int choice;

   cout << "Enter two numbers: ";
   cin >> num1 >> num2;

   do {
      cout << "\nMenu:\n";
      cout << "1. Add\n";
      cout << "2. Subtract\n";
      cout << "3. Multiply\n";
      cout << "4. Divide\n";
      cout << "5. Exit\n";
      cout << "Enter your choice (1-5): ";
      cin >> choice;

      switch (choice) {
         case 1:
            add(num1, num2);
            break;
         case 2:
            substract(num1, num2);
            break;
         case 3:
            multiply(num1, num2);
            break;
         case 4:
            divide(num1, num2);
            break;
```

```
        case 5:
            cout << "Exiting the program." << endl;
            break;
        default:
            cout << "Invalid choice! Please choose again." << endl;
    }
  } while (choice != 5);

  return 0;
}
```



5. Generate following pyramid , accept the level from the user as input
1
1 2
1 2 3
..... 1.....N
where N is the level accepted as input

```
#include <iostream>
using namespace std;

int main() {
   int level;
   cout<<"Enter the level : ";
   cin>>level;

   for (int i = 0; i <= level; i++) {
      for (int j = 1; j <= i; j++) {
         cout << j;
      }
      cout << endl;
   }

   return 0;
}
```