

QUESTION NO :1

WRITE A PROGRAM TO FIND PRIME NUMBERS WITH IN A RANGE IN C++.

```
#include <iostream>
using namespace std;
bool isPrime(int num) {
    if (num <= 1) {
        return false;
    }

    for (int i = 2; i * i <= num; ++i) {
        if (num % i == 0) {
            return false;
        }
    }

    return true;
}

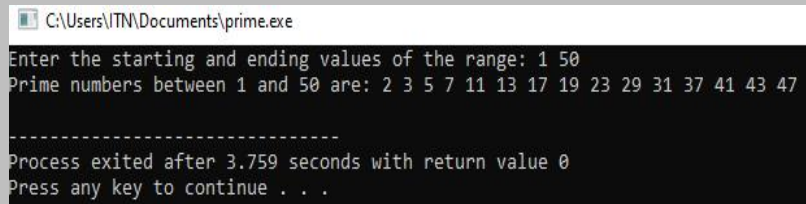
void findPrimesInRange(int start, int end) {
    cout << "Prime numbers between " << start << " and " << end << " are: ";

    for (int i = start; i <= end; ++i) {
        if (isPrime(i)) {
            cout << i << " ";
        }
    }

    cout << endl;
}

int main() {
    int start, end;
    cout << "Enter the starting and ending values of the range: ";
    cin >> start >> end;
    findPrimesInRange(start, end);

    return 0;
}
```



```
C:\Users\ITN\Documents\prime.exe
Enter the starting and ending values of the range: 1 50
Prime numbers between 1 and 50 are: 2 3 5 7 11 13 17 19 23 29 31 37 41 43 47
-----
Process exited after 3.759 seconds with return value 0
Press any key to continue . . .
```

QUESTION NO 2:

WRITE A PROGRAM TO FIND SUM OF A DIGITS OF GIVEN NUMBER.

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

int sumOfDigits(int number) {
    int sum = 0;
    while (number > 0) {
        sum += number % 10;
        number /= 10;
    }
}
```

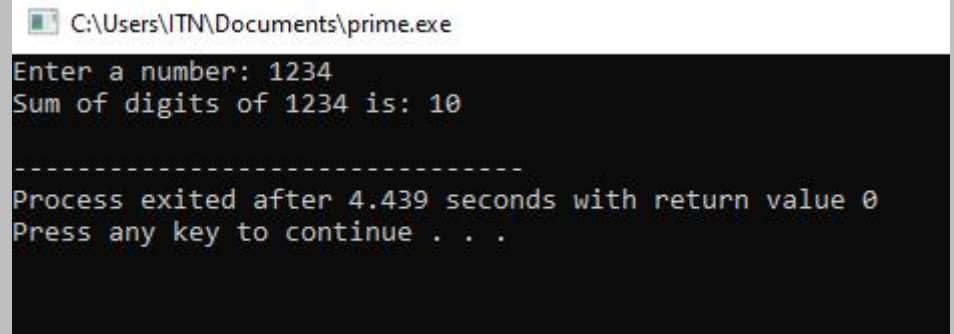
```

    }
    return sum;
}

int main() {
    int num;
    cout << "Enter a number: ";
    cin >> num;
    cout << "Sum of digits of " << num << " is: " << sumOfDigits(num) << endl;

    return 0;
}

```



```

C:\Users\ITN\Documents\prime.exe
Enter a number: 1234
Sum of digits of 1234 is: 10

-----
Process exited after 4.439 seconds with return value 0
Press any key to continue . . .

```

QUESTION NO 3:

Write a program in C++ to display the first n terms of the Fibonacci series.0 1 1 2 3 5 8 13 21 34.

```

#include <iostream>
using namespace std;

```

```

void generateFibonacci(int num) {
    int first = 0, second = 1, next;

    cout << "Fibonacci Series (first " << num << " terms): ";

    for (int i = 0; i < num; ++i) {
        cout << first << " ";

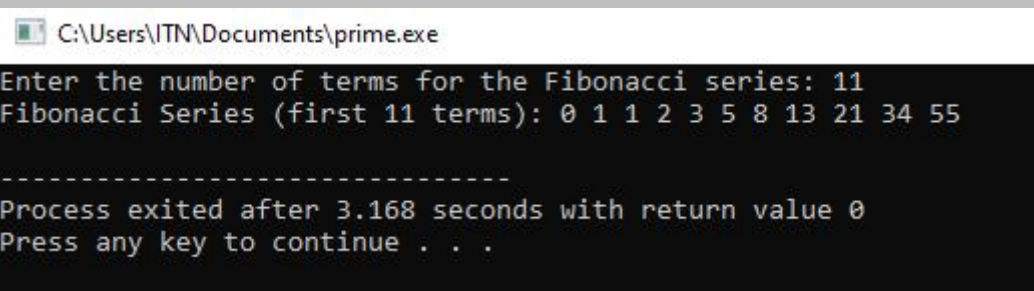
        next = first + second;
        first = second;
        second = next;
    }
    cout << endl;
}

```

```

int main() {
    int terms;
    cout << "Enter the number of terms for the Fibonacci series: ";
    cin >> terms;
    generateFibonacci(terms);
    return 0;
}

```



```

C:\Users\ITN\Documents\prime.exe
Enter the number of terms for the Fibonacci series: 11
Fibonacci Series (first 11 terms): 0 1 1 2 3 5 8 13 21 34 55

-----
Process exited after 3.168 seconds with return value 0
Press any key to continue . . .

```

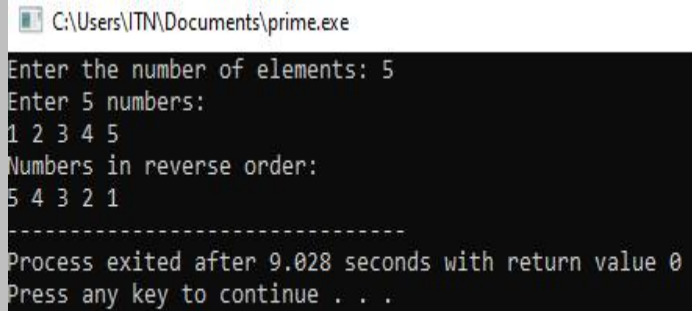
QUESTION NO 4

WRITE A PROGRAM IN C++ TO DISPLAY NUMBERS IN REVERSE ORDER

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

int main() {
    int n;
    cout << "Enter the number of elements: ";
    cin >> n;
    int numbers[n];
    cout << "Enter " << n << " numbers:" << endl;
    for (int i = 0; i < n; ++i) {
        cin >> numbers[i];
    }
    cout << "Numbers in reverse order:" << endl;
    for (int i = n - 1; i >= 0; --i) {
        cout << numbers[i] << " ";
    }

    return 0;
}
```



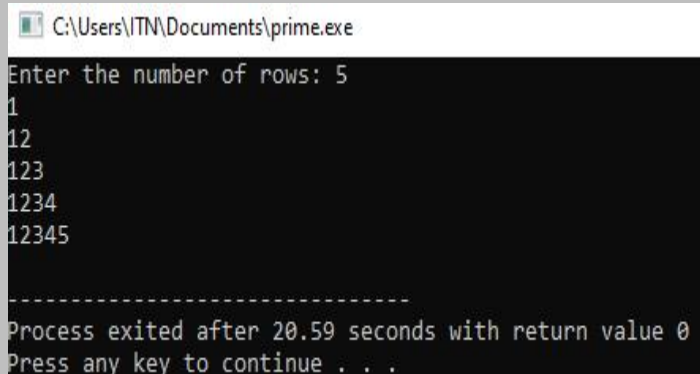
```
C:\Users\ITN\Documents\prime.exe
Enter the number of elements: 5
Enter 5 numbers:
1 2 3 4 5
Numbers in reverse order:
5 4 3 2 1
-----
Process exited after 9.028 seconds with return value 0
Press any key to continue . . .
```

QUESTION NO 5

WRITE A PROGRAM WITH FOLLOWING OUTPUT.

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

int main() {
    int n;
    cout << "Enter the number of rows: ";
    cin >> n;
    for (int i = 1; i <= n; ++i) {
        for (int j = 1; j <= i; ++j) {
            cout << j;
        }
        cout << endl;
    }
}
```



```
C:\Users\ITN\Documents\prime.exe
Enter the number of rows: 5
1
12
123
1234
12345
-----
Process exited after 20.59 seconds with return value 0
Press any key to continue . . .
```

```
    return 0;
}
```

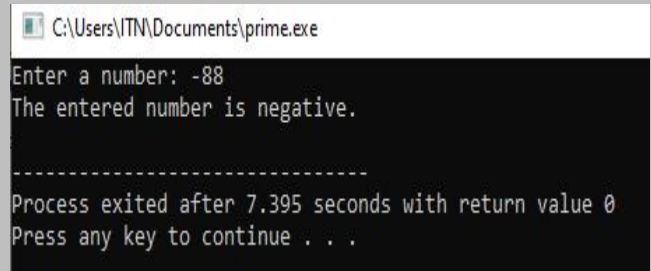
QUESTION NO 6:

WRITE A PROGRAM TO CHECK WHETHER A NUMBER IS POSITIVE OR NEGATIVE.

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

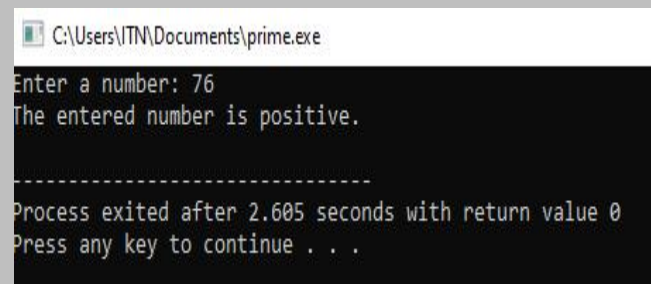
int main() {
    int number;
    cout << "Enter a number: ";
    cin >> number;
    if (number > 0) {
        cout << "The entered number is positive." << endl;
    } else if (number < 0) {
        cout << "The entered number is negative." << endl;
    } else {
        cout << "The entered number is zero." << endl;
    }

    return 0;
}
```



```
C:\Users\ITN\Documents\prime.exe
Enter a number: -88
The entered number is negative.

-----
Process exited after 7.395 seconds with return value 0
Press any key to continue . . .
```



```
C:\Users\ITN\Documents\prime.exe
Enter a number: 76
The entered number is positive.

-----
Process exited after 2.605 seconds with return value 0
Press any key to continue . . .
```