11th JULY 2021

PROBLEM SOLVING DAY

C++ COMPLETE BOOTCAMP

Hello CPPBudddies

Problem Solving

Session No. 1

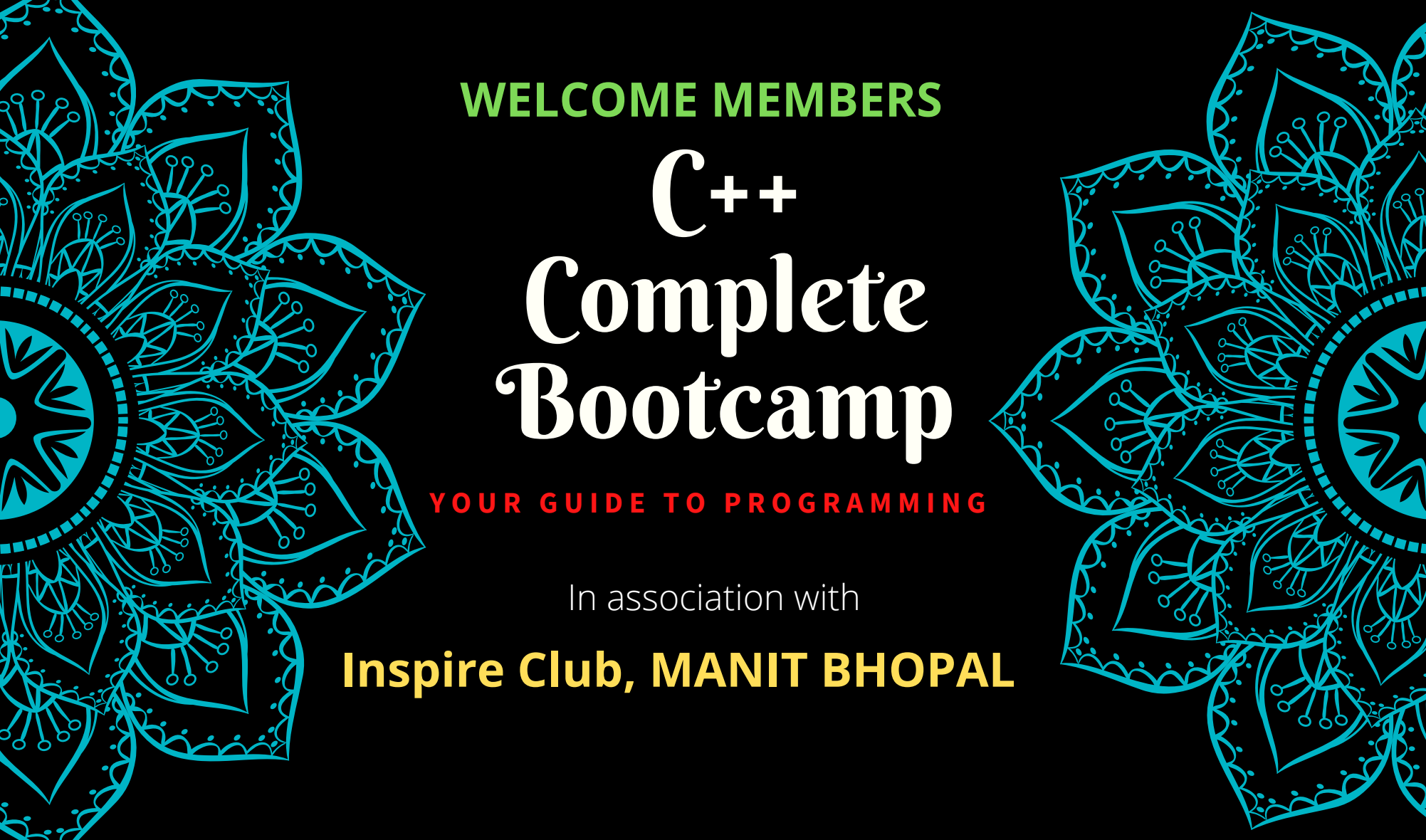
Welcome

To

C++ COMPLETE BOOTCAMP

Your Guide To A Solid Foundataion in C++

Let us begin


WELCOME MEMBERS
C++
Complete
Bootcamp
YOUR GUIDE TO PROGRAMMING
In association with
Inspire Club, MANIT BHOPAL

Let us begin....

Are you all ready ?

FizzBuzz

(famous interview problem)

Given A Number N:
Write all numbers from 1....N
But,
for multiples of 3, print "FIZZ"
for multiples of 5, print "BUZZ"

Sample Problems

Find the distance between two points P(a, b) and Q(c, d) in a 2D plane.

Sample Problems

Find the cost to paint a spherical ball of radius R at the rate of Rs. 10 per sq. unit

Sample Problems

Find the total money you have to pay after T years if you borrow money P from your friend at rate R per annum. Input P, R, T accordingly.

Maximum of 3

Basic C programming, Relational operators, Logical operators, If else

Logic Behind This

- num1 is maximum if num1 > num2 and num1 > num3.
- num2 is maximum if num2 > num1 and num2 > num3.
- num3 is maximum if num3 > num1 and num3 > num2.

Example

Input

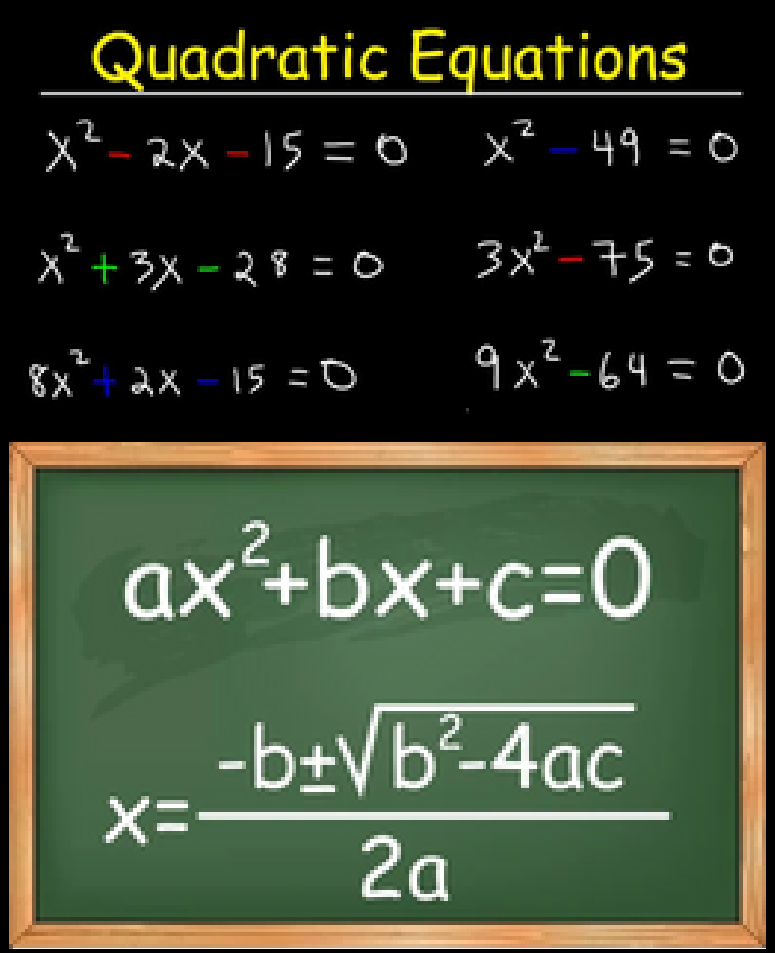
Input num1: 10

Input num2: 20

Input num3: 15

Output

Maximum is: 20



Example

Program to find the roots of a quadratic equation

operators
if-else if-else

The standard form of a quadratic equation is:

a*x^2 + b*x + c = 0,

where a, b and c are real numbers and a != 0

The term **b^2-4ac** is known as the **discriminant** of a quadratic equation. It tells the nature of the roots.

- If the discriminant is greater than 0, the roots are real and different.
- If the discriminant is equal to 0, the roots are real and equal.
- If the discriminant is less than 0, the roots are complex and different.

$$root1 = \frac{-b + \sqrt{(b^2 - 4ac)}}{2a}$$

If the discriminant > 0,

$$root2 = \frac{-b - \sqrt{(b^2 - 4ac)}}{2a}$$

If the discriminant = 0, $root1 = root2 = \frac{-b}{2a}$

$$root1 = \frac{-b}{2a} + \frac{i\sqrt{-(b^2 - 4ac)}}{2a}$$

If the discriminant < 0,

$$root2 = \frac{-b}{2a} - \frac{i\sqrt{-(b^2 - 4ac)}}{2a}$$

Check Triangle

Properties of triangle

- A triangle is said Equilateral Triangle, if all its sides are equal. If a, b, c are three sides of triangle. Then, the triangle is equilateral only if a == b == c.
- A triangle is said Isosceles Triangle, if its two sides are equal. If a, b, c are three sides of triangle. Then, the triangle is isosceles if either a == b or a == c or b == c.
- A triangle is said Scalene Triangle, if none of its sides are equal.

Example

Input

Input first side: 30

Input second side: 30

Input third side: 30

Output

Triangle is equilateral triangle

🙏 THANK YOU 🙏

keep calm,
wear mask,
and
study hard

whoami

AKASH MAJI

Your Mentor

ISSUED IN PUBLIC INTEREST