K. J. Somaiya College of Engineering,
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Batch: G3	**Roll No.: 16010421063**
Experiment / assignment / tutorial No. 2	
Grade: AA / AB / BB / BC / CC / CD /DD	
Signature of the Staff In-charge with date	

TITLE: Write a program to accept 3 numbers from the user and find the largest of the 3 numbers using
If - else if-else
Ternary operator

AIM: Write a program to accept 3 numbers from the user and find the largest of the 3 numbers using
If - else if-else
Ternary operator

Expected OUTCOME of Experiment:
CO2: Apply basic concepts of C programming for problem solving

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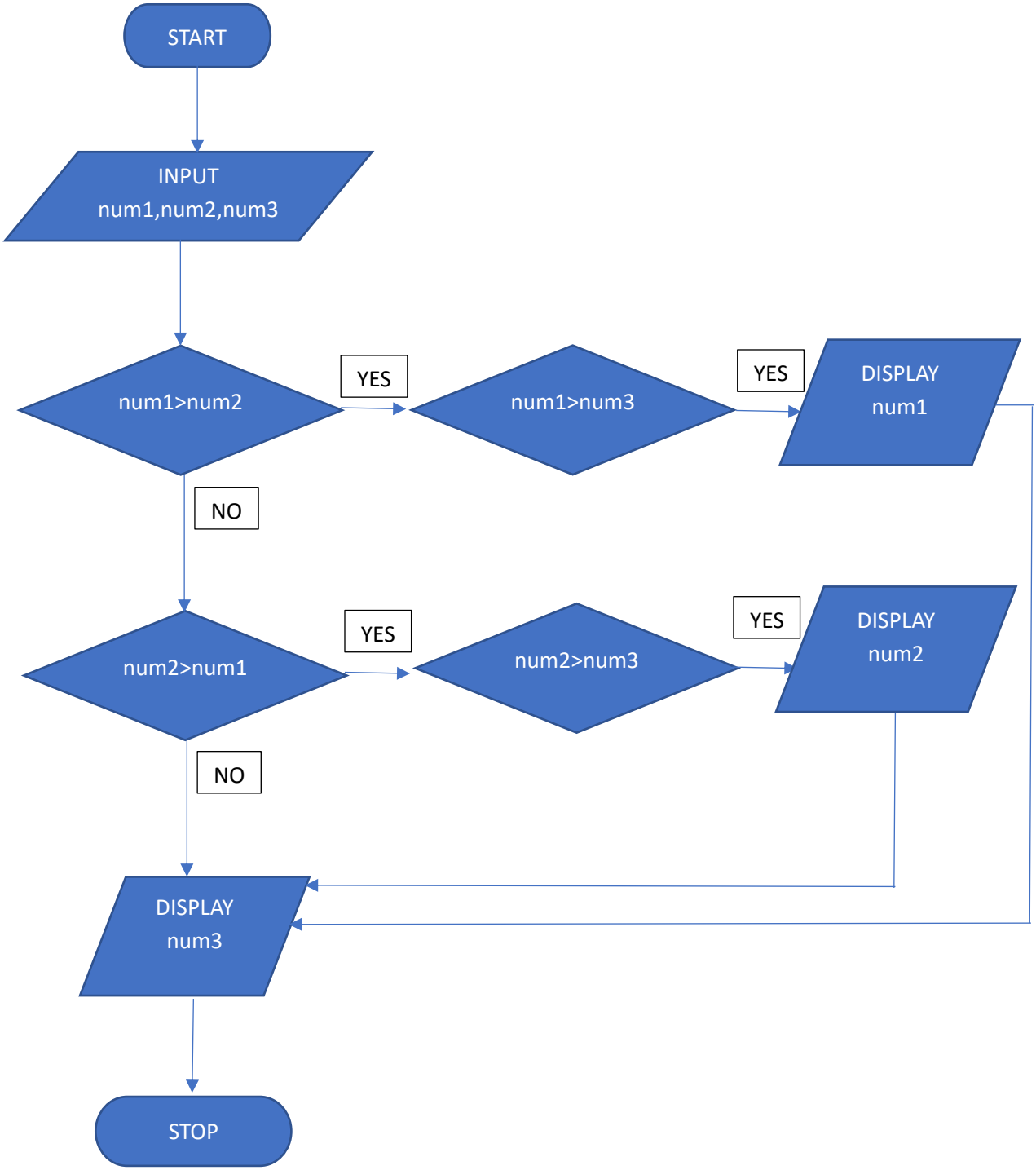
Books/ Journals/ Websites referred:

1. Programming in C, second edition, Pradeep Dey and Manas Ghosh, Oxford University Press.
2. Programming in ANSI C, fifth edition, E Balagurusamy, Tata McGraw Hill.
3. Introduction to programming and problem solving , G. Michael Schneider ,Wiley India edition.
4. **http://cse.iitkgp.ac.in/~rkumar/pds-vlab/**

Problem Definition:

Ask user to input three numbers. Compare three numbers to find the largest of them using
1. Nested if else statement
2. Using ternary operator

Flowchart:


START
INPUT
num1,num2,num3
num1>num2
YES
num1>num3
YES
DISPLAY
num1
NO
num2>num1
YES
num2>num3
YES
DISPLAY
num2
NO
DISPLAY
num3
STOP

Implementation details:

Using if-else:

```
#include<stdio.h>
//Code by Arya Nair
int main()
{
   float num1,num2,num3,max;
   printf("Enter 3 numbers: ");
   //Getting values from the user
   scanf("%f%f%f",&num1,&num2,&num3);


   //conditional operators to find the largest number
   if (num1>num2 && num1>num3)
   {
      max=num1;
   }
   else if(num2>num1 && num2>num3)
   {
      max=num2;
   }
   else
   {
      max=num3;
   }


   printf("%f",max);
}
```

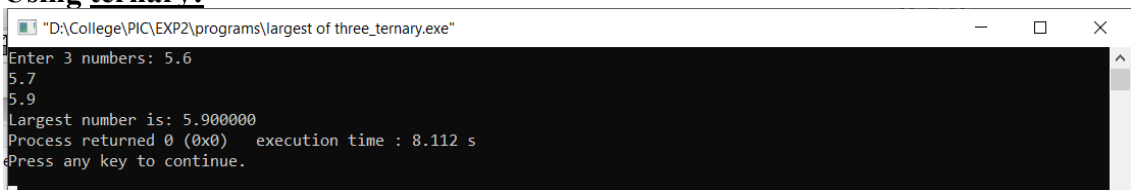
Using ternary operator:

```
#include<stdio.h>
//Code by Arya Nair
int main()
{
   float num1,num2,num3,max;
   printf("Enter 3 numbers: ");
   //Getting values from the user
   scanf("%f%f%f",&num1,&num2,&num3);

   //Nested ternary operator
   max = (num1 > num2 && num1 > num3) ? num1 : (num2 > num1 && num2 > num3) ? num2 : num3;

   //Giving user the largest number
   printf("Largest number is: %f",max);
}
```

Output(s):

Using if-else:

Using ternary:



Conclusion:
This program used if-else statements and ternary operator to give us our desired output. This helped me understand the various use cases of if-else statements.

Post Lab Descriptive Questions

1. **Explain bitwise operators with examples**

Ans-

Bitwise operators are characters that represent actions to be performed on single bits. A bitwise operation operates on two-bit patterns of equal lengths by positionally matching their individual bits. The most commonly used Bitwise operators are And(&&) and Or(||)

Examples-

&	Bitwise And
|	Bitwise Or
^	Bitwise EXOR
<<	Left shift
>>	Right shift
-	Complement

2. **Write a code snippet to perform left shifting of bits by some positions**

Ans-

```
#include<stdio.h>

int main()
{
   int num,iter;
   printf("Enter number you would like to left shift: ");
   scanf("%d",&num);
   printf("How many times do you want to shift: ");
   scanf("%d",&iter);

   printf("%d",num<<iter);
   return 0;
}
```

3. Write associative rules and precedence table of various operators.

Ans-

ASSOCIATIVITY	OPERATOR	DESCRIPTION
left to right	( ) [ ] . -> + + - -	Parentheses/Function call Brackets Dot Arrow Operator Postfix Increment/Decrement
right to left	+ + - - + - ! ~d (type) * & size of	Prefix Increment/Decrement Unary plus and minus not operator and bitwise complement type cast dereference operator Address of operator Determine size of bytes
left to right	+ - * / %	Addition and Subtraction Multiplication, Division and Modulus
left to right	<< >> < <= > >= = = ! = & ^ | && | |	Bitwise left shift and right shift Relational less than/less than equal to Relational greater than/greater than equal to Relational equal to and not equal to Bitwise And Bitwise exclusive Or Bitwise inclusive Or Logical Or Logical Or
right to left	? :	Ternary Operator
right to left	= += -= *= /= %= &= ^= |= <<= >>=	Assignment Operator Addition/Subtraction Assignment Multiplication/Division Assignment Modulus/Bitwise And Assignment Bitwise Inclusive/Exclusive Or Assignment Bitwise Shift Left/Right Assignment
left to right	,	Comma Operator

4. What are different storage class specifiers in C?

Ans-

The four storage classes in C are:

- Auto is used for a local variable declared in the scope.
- Register is used to store the variable in CPU registers rather memory location for quick access.
- Static is used for both global and local variables. Each one has its use case within a C program.
- Extern is used for data sharing between C project files.

Date: _____ **Signature of faculty in-charge**