

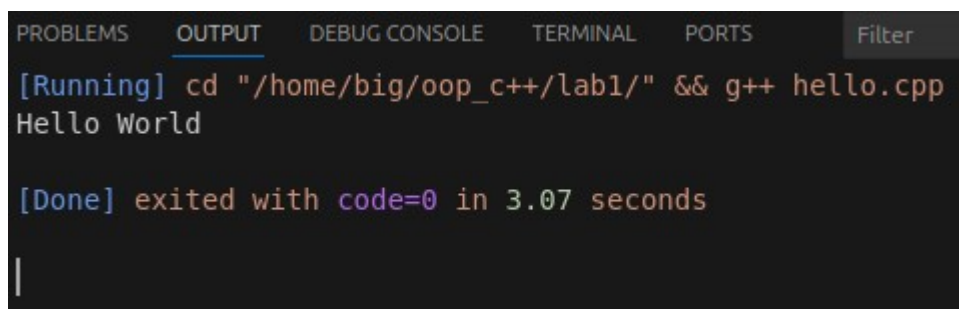
## Title

Write a program to display simple "Hello World" to the console.

## Objectives

## Program

## Output :

A screenshot of a code editor's output window. The window has a dark background with a light gray border. At the top, there are several tabs: "PROBLEMS", "OUTPUT" (which is selected and underlined), "DEBUG CONSOLE", "TERMINAL", "PORTS", and a "Filter" button. The main area of the window displays the output of a program. It starts with "[Running]" in blue, followed by the command "cd "/home/big/oop\_c++/lab1/" && g++ hello.cpp" in orange. Below this, the text "Hello World" is displayed in white. Further down, it shows "[Done]" in blue, followed by "exited with code=0 in 3.07 seconds" in orange. A vertical cursor is visible at the bottom left of the output area.

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  Filter
[Running] cd "/home/big/oop_c++/lab1/" && g++ hello.cpp
Hello World

[Done] exited with code=0 in 3.07 seconds
|
```

## Conclusion

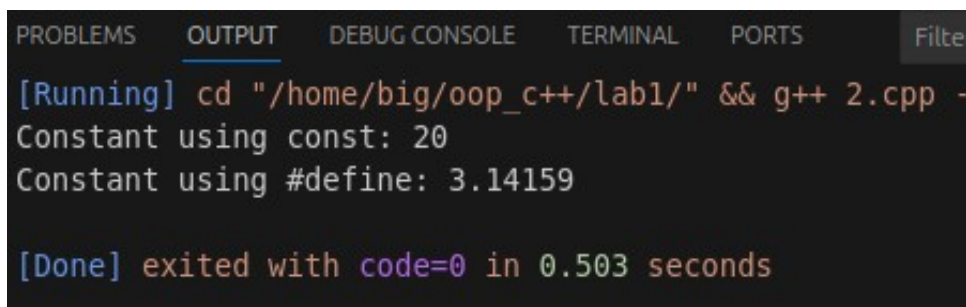
## Title

**WAP to demonstrate use of constant using const keyword and #define preprocessor directive.**

## Objectives

## Program

## Output :



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  Filte
[Running] cd "/home/big/oop_c++/lab1/" && g++ 2.cpp -
Constant using const: 20
Constant using #define: 3.14159

[Done] exited with code=0 in 0.503 seconds
```

## Conclusion

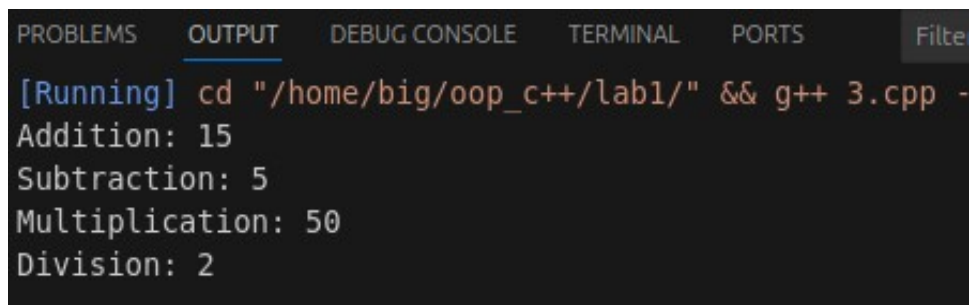
## Title

**WAP to perform basic arithmetic operations.**

## Objectives

## Program

## Output :



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  Filte
[Running] cd "/home/big/oop_c++/lab1/" && g++ 3.cpp -
Addition: 15
Subtraction: 5
Multiplication: 50
Division: 2
```

## Conclusion

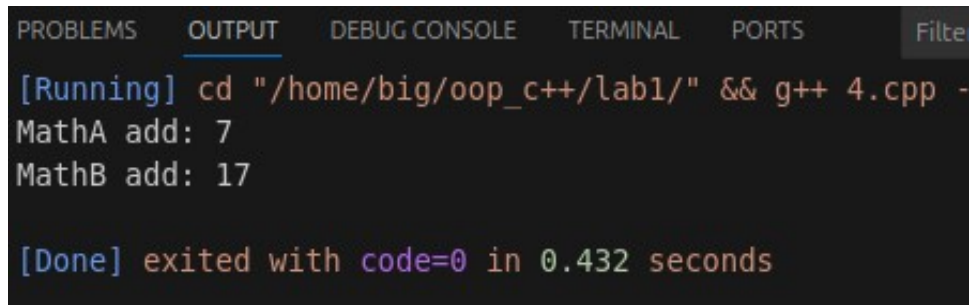
## **Title**

**WAP to define user defined namespaces MathA and MathB.**

## **Objectives**

## **Program**

## Output :



The screenshot shows an IDE's output window with tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL, and PORTS. The OUTPUT tab is active. The text in the output window is as follows:

```
[Running] cd "/home/big/oop_c++/lab1/" && g++ 4.cpp -  
MathA add: 7  
MathB add: 17  
  
[Done] exited with code=0 in 0.432 seconds
```

## Conclusion

## **Title**

**WAP to accept name, age and height from the user and display the output by using manipulators like setw(), setprecision(), setfill(), etc. to format the final output.**

## **Objectives**

## **Program**

**Input :**

**Output :**

```
big@hell-na:~/oop_c++/lab1$ ./run
Enter your name: ram
Enter age: 20
Enter height in cm: 180
-----
Name: -----ram
Age: -----20
Height: -----180.00 cm
```

**Conclusion**

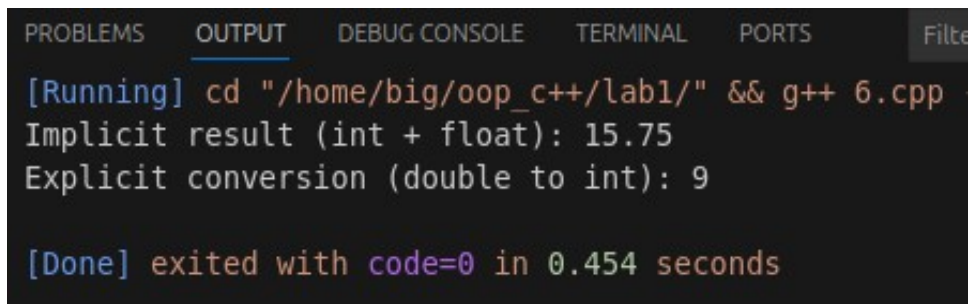
## Title

Create a program using all types of basic data types and type conversion between them (implicit and explicit)

## Objectives

## Program

## Output :



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  Filter
[Running] cd "/home/big/oop_c++/lab1/" && g++ 6.cpp
Implicit result (int + float): 15.75
Explicit conversion (double to int): 9

[Done] exited with code=0 in 0.454 seconds
```

## Conclusion



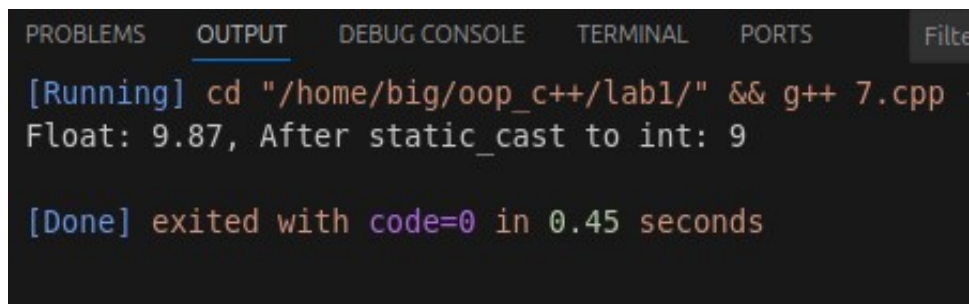
## Title

Create a program that shows all basic data types, and uses `static_cast<>` to convert from float to int

## Objectives

## Program

## Output :

A screenshot of a code editor's output window. The window has a dark background with a light gray border. At the top, there are several tabs: 'PROBLEMS', 'OUTPUT' (which is selected and has a blue underline), 'DEBUG CONSOLE', 'TERMINAL', 'PORTS', and a 'Filter' button. The output text is as follows:

```
[Running] cd "/home/big/oop_c++/lab1/" && g++ 7.cpp  
Float: 9.87, After static_cast to int: 9  
  
[Done] exited with code=0 in 0.45 seconds
```

## Conclusion

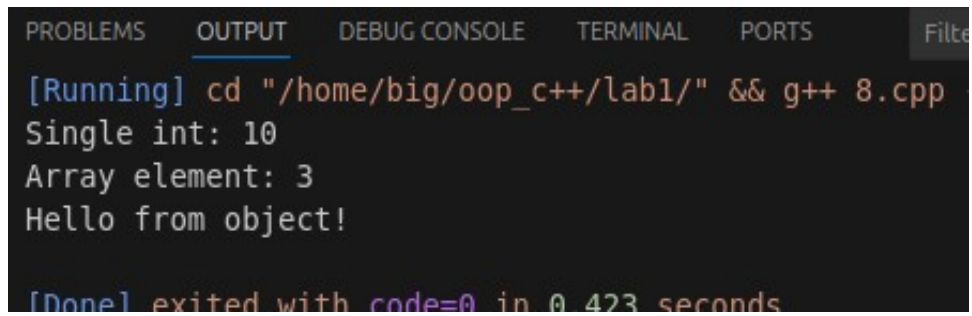
## **Title**

**Write a program to dynamically allocate and deallocate memory for an integer, array of integers, and an object using new and delete**

## **Objectives**

## **Program**

## Output :



The screenshot shows the 'OUTPUT' tab of a code editor. It displays the command `cd "/home/big/oop_c++/lab1/" && g++ 8.cpp` being executed. The program's output consists of three lines: `Single int: 10`, `Array element: 3`, and `Hello from object!`. At the bottom, it indicates the program completed successfully with `[Done] exited with code=0 in 0.423 seconds`.

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  Filter
[Running] cd "/home/big/oop_c++/lab1/" && g++ 8.cpp
Single int: 10
Array element: 3
Hello from object!
[Done] exited with code=0 in 0.423 seconds
```

## Conclusion

## **Title**

**Write a C++ program that checks whether a number is positive, negative, or zero using if-else**

## **Objectives**

## **Program**

## Input

## Output :

```
big@hell-na:~/oop_c++/lab1$ ./run
Enter a number: 10
Positive
big@hell-na:~/oop_c++/lab1$ ./run
Enter a number: 0
Zero
big@hell-na:~/oop_c++/lab1$ ./run
Enter a number: -5
```

## Conclusion

## **Title**

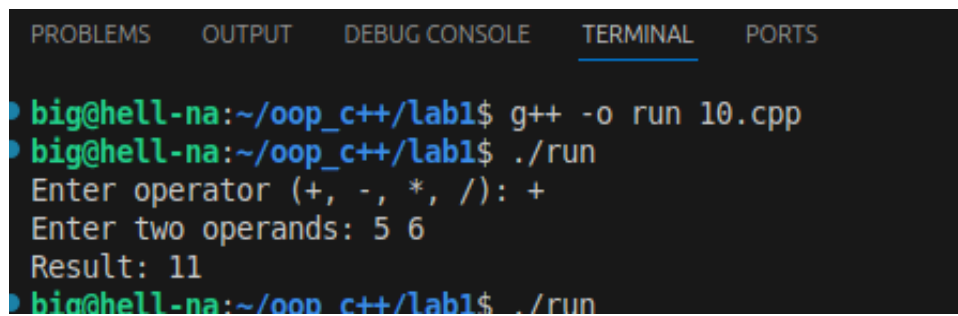
**Use switch-case to create a simple calculator (add, subtract, multiply, divide)**

## **Objectives**

## **Program**

## Input

## Output :



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

• big@hell-na:~/oop_c++/lab1$ g++ -o run 10.cpp
• big@hell-na:~/oop_c++/lab1$ ./run
Enter operator (+, -, *, /): +
Enter two operands: 5 6
Result: 11
• big@hell-na:~/oop_c++/lab1$ ./run
```

## Conclusion

## **Title**

**Display all even numbers between 1 and 100 using for, while, and do-while**

## **Objectives**

## **Program**



## Output :

```
[Running] cd "/home/big/oop_c++/lab1/" && g++ 11forl  
2 4 6 8 10 12 14 16 18 20  
22 24 26 28 30 32 34 36 38 40  
42 44 46 48 50 52 54 56 58 60  
62 64 66 68 70 72 74 76 78 80  
82 84 86 88 90 92 94 96 98 100
```

## Conclusion

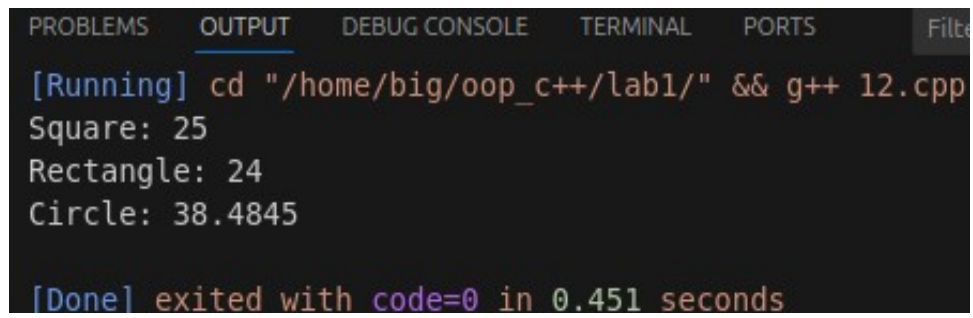
## **Title**

**Create overloaded functions area() to calculate the area of:  
a square (one argument), a rectangle (two arguments), a circle (one  
float argument).**

## **Objectives**

## **Program**

## Output :



The screenshot shows a code editor interface with a dark theme. At the top, there are tabs labeled 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', 'TERMINAL', and 'PORTS'. The 'OUTPUT' tab is currently selected and highlighted with a blue underline. Below the tabs, the output of a program is displayed. It starts with a blue prompt '[Running]' followed by a command to run a C++ file. The program's output consists of three lines: 'Square: 25', 'Rectangle: 24', and 'Circle: 38.4845'. At the bottom, a blue prompt '[Done]' is followed by a message indicating the program exited successfully with code 0 in 0.451 seconds.

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  Filter
[Running] cd "/home/big/oop_c++/lab1/" && g++ 12.cpp
Square: 25
Rectangle: 24
Circle: 38.4845
[Done] exited with code=0 in 0.451 seconds
```

## Conclusion

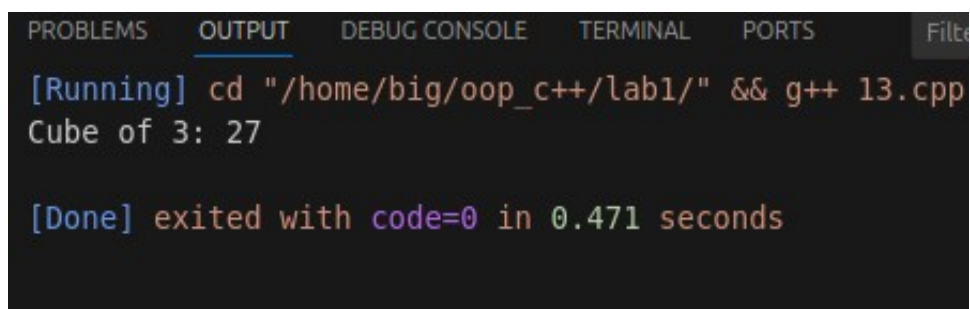
## Title

Write an inline function to calculate the cube of a number

## Objectives

## Program

## Output :

A screenshot of a code editor's output window. The window has a dark background with a light gray border. At the top, there are several tabs: 'PROBLEMS', 'OUTPUT' (which is selected and has a blue underline), 'DEBUG CONSOLE', 'TERMINAL', 'PORTS', and a 'Filter' button. The main area of the window displays the output of a program. It starts with a blue prompt '[Running]' followed by the command 'cd "/home/big/oop\_c++/lab1/" && g++ 13.cpp'. Below this, the program's output is shown: 'Cube of 3: 27'. At the bottom, a blue prompt '[Done]' is followed by the text 'exited with code=0 in 0.471 seconds'.

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  Filter
[Running] cd "/home/big/oop_c++/lab1/" && g++ 13.cpp
Cube of 3: 27

[Done] exited with code=0 in 0.471 seconds
```

## Conclusion

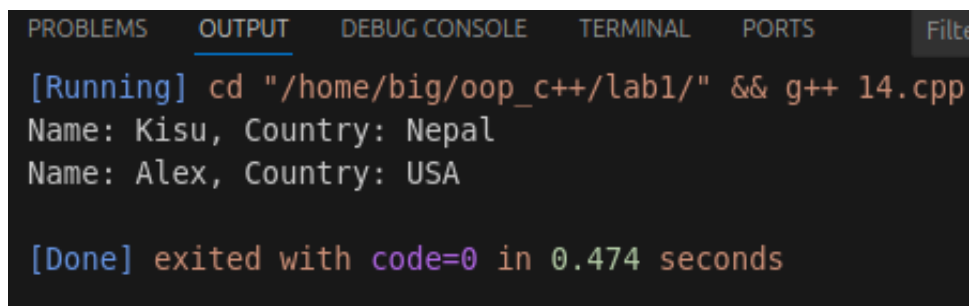
## Title

Write a function `printInfo` with default argument for `country = "Nepal"`

## Objectives

## Program

## Output :



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  Filter
[Running] cd "/home/big/oop_c++/lab1/" && g++ 14.cpp
Name: Kisu, Country: Nepal
Name: Alex, Country: USA

[Done] exited with code=0 in 0.474 seconds
```

## Conclusion

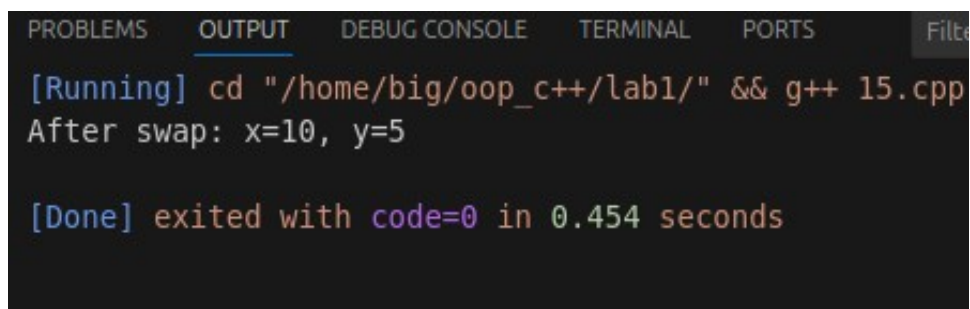
## Title

Write a function that swaps two numbers using pass by reference

## Objectives

## Program

## Output :

A screenshot of a code editor's output window. The window has tabs for 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', 'TERMINAL', 'PORTS', and 'Filter'. The 'OUTPUT' tab is selected. The text in the output window is as follows:

```
[Running] cd "/home/big/oop_c++/lab1/" && g++ 15.cpp  
After swap: x=10, y=5  
  
[Done] exited with code=0 in 0.454 seconds
```

## Conclusion

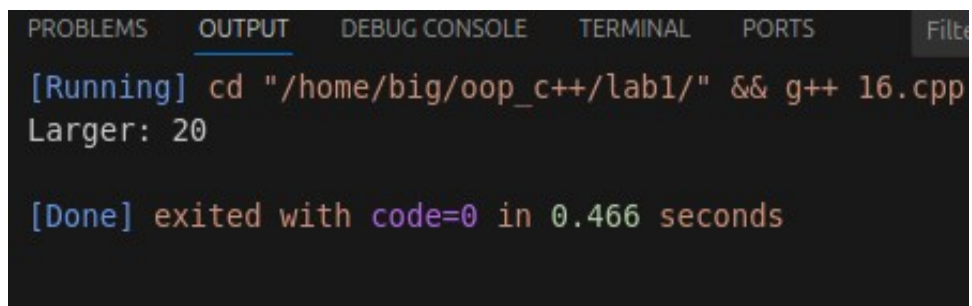
## Title

**Return a reference from a function that returns the larger of two numbers**

## Objectives

## Program

## Output :

A screenshot of a code editor's output window. The window has a dark background with a light gray border. At the top, there are several tabs: 'PROBLEMS', 'OUTPUT' (which is selected and highlighted with a blue underline), 'DEBUG CONSOLE', 'TERMINAL', 'PORTS', and a 'Filter' button. The main area of the window displays the output of a program. It starts with '[Running]' in blue, followed by the command 'cd "/home/big/oop\_c++/lab1/" && g++ 16.cpp' in orange. Below this, the text 'Larger: 20' is shown in white. At the bottom, it says '[Done]' in blue, followed by 'exited with code=0 in 0.466 seconds' in orange.

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  Filter
[Running] cd "/home/big/oop_c++/lab1/" && g++ 16.cpp
Larger: 20

[Done] exited with code=0 in 0.466 seconds
```

## Conclusion

## **Title**

**Write a C++ program to demonstrate the use of pointer arithmetic, including: ptr++ (pointer increment) , ptr-- (pointer decrement), ptr1 - ptr2 (pointer subtraction) , ptr1 > ptr2, ptr1 < ptr2, ptr1 == ptr2 (pointer comparisons)**

## **Objectives**

## **Program**



## Output :

```
Initial ptr1: 20  
After ptr1++: 30  
After ptr1--: 20  
Pointer subtraction (ptr2 - ptr1): 2  
ptr2 > ptr1: 1  
ptr2 < ptr1: 0  
ptr2 == ptr1: 0
```

## Conclusion