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| Problem 1: Pointers |

**Note: Must handle invalid conditions carefully.**

Write a program that asks the user to enter integers as inputs to be stored in the variables 'a' and 'b' respectively. There are also two integer pointers named ptrA and ptrB. Assign the values of 'a' and 'b' to ptrA and ptrB respectively, and display them. After this, update the values of variable a and b through their pointers and show the data stored on those memory locations through pointer.

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| Problem 2: Pointers |

Write a C++ program that creates memory of 1 variable through an integer pointer. Input a number into the created memory and find square, cube and half of the input.

Make sure to clear the memory at the end and there should be no memory leak.

**For Example:**

**Input:**

Please enter the integer: 8

**Output:**

Square of numbers is: 64

Cube of numbers is: 512

Half of numbers is: 4

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| Problem 3: 1D Dynamic Array |

Write a C++ program that declares and initializes an array dynamically and finds the index of the first occurrence of the second largest element in the array.

**For Example:**

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| **Input:**  Please enter size: 5  Please enter elements:  1  7  3  9  7  **Output:**  Index of First occurrence of second largest element is: 1 |

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| Problem 4: 1D Dynamic Array |

Write a C++ program that creates an array after taking size from user. It then adds 3 to each element of the array.

You have to add to the elements using pointer only. Array subscript notation cannot be used. Make sure to clear the memory at the end and there should be no memory leak.

**For Example:**

**Input:**

Please enter size: 10

Enter 10 elements:

1

11

2

30

26

12

5

9

15

28

**Output:**

Resulting Array: 4, 14, 5, 33, 29, 15, 8, 12, 18, 31

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| Problem 5: Constant variable |

1. Write a C++ program that finds the median of following three integers using their pointers.

const **int** **a**=5;

const **int** **b**=12;

const **int** **c**=10

1. Modify your program a little. Try to assign the value **-1** to whichever integer occurs to be the median. The task is to be done through pointers.