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**LAB # 01**

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| **REGISTRATION NO.** | **B24F0488CS035** |

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# **LAB TASK # 01:**

**Write question here.**

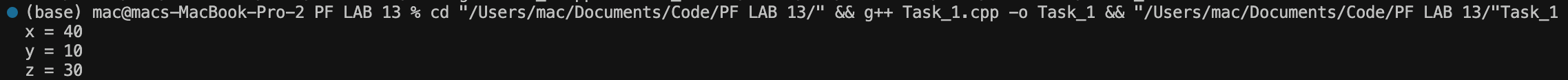
Write a program that performs the following steps:

1. Declare three integer variables: x, y, and z and initialize them with values 10, 20, and 30 respectively.
2. Declare three pointer variables: ptr1, ptr2, and ptr3.
3. Assign the addresses of x, y, and z to ptr1, ptr2, and ptr3 respectively.
4. Using only the pointer variables (ptr1, ptr2, ptr3):
   * Swap the values of x and y.
   * Update z to the sum of x and y.
   * Change the value of x to double its current value.
5. Print the final values of x, y, and z.

**SOURCE CODE:**

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| --- |
| #include <iostream>  using namespace std;  int main() {  int x = 10, y = 20, z = 30;  int\* ptr1 = nullptr, \* ptr2 = nullptr, \* ptr3 = nullptr;  ptr1 = &x;  ptr2 = &y;  ptr3 = &z;  int temp = \*ptr1;  \*ptr1 = \*ptr2;  \*ptr2 = temp;  \*ptr3 = \*ptr1 + \*ptr2;  \*ptr1 = \*ptr1 \* 2;  cout << "x = " << \*ptr1 << endl;  cout << "y = " << \*ptr2 << endl;  cout << "z = " << \*ptr3 << endl;  return 0;  } |

**OUTPUT:**

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# **LAB TASK # 02:**

­­­­ **Write question here.**

Write a program that performs the following steps:

1. Declare two integer variables: a and b and initialize them with values 25 and 40 respectively.
2. Declare two pointer variables: pA and pB.
3. Assign the addresses of a and b to pA and pB respectively.
4. Perform the following operations using only the pointers:
   * Add the values of a and b and store the result in a.
   * Subtract the original value of b from the updated value of a and store the result in b.
   * Swap the values of a and b without using a temporary variable.
5. Print the final values of a and b.

**SOURCE CODE:**

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| --- |
| #include <iostream>  using namespace std;  int main() {  int a = 25, b = 40;  int\* pA = nullptr, \* pB = nullptr;  pA = &a;  pB = &b;  \*pA = \*pA + \*pB;  \*pB = \*pA - \*pB;  \*pA = \*pA - \*pB;  cout << "a = " << \*pA << endl;  cout << "b = " << \*pB << endl;  return 0;  } |

**OUTPUT:**

