1. **Problem statement:**

To let user to enter two vectors whose size is determined by user himself. Then check the two vectors whether they have the same elements, ignoring the order and multiplicities. The two vectors should be passed to a self-defined function and return the result to main function.

1. **Analysis:**

Inputs: several integers representing elements of two vectors

Outputs: the result whether the two vectors have same elements

Additional requirements: must write a self-defined function to achieve the goal

1. **Design:**

Main function

1. ask user to enter the size of first vector and enter the elements one by one
2. ask user to enter the size of second vector and enter the elements one by one
3. compare the two vectors by using function same\_vec, and display the result

function same\_vector

1. declare two vectors namely m1,m2 of size of passed vectors respectively
2. compare the element in the first vector with the second vector one by one
3. if the two integers are same, set the ith vector of m1 to be 1 and stop comparing this element
4. if the two integers are different, set the ith vector of m1 to be 0
5. compare the element in the second vector with the first vector one by one
6. if the two integers are same, set the ith vector of m2 to be 1 and stop comparing this element
7. if the two integers are different, set the ith vector of m2 to be 0
8. let sum1 equal to the sum of elements of vector m1
9. let sum2 equal to the sum of elements of vector m2
10. if sum1 is equal to size of m1 and sum2 is equal to size of m2, the two vectors are same and return true
11. if not, return false

**4. Implementation**: see C++ code in file 1405347\_3-2.cpp with comments.

**5. Testing:**

The C++ program was tested by carrying out a set of experiments and the C ++program output was verified successfully. For example,



