TCP1201 Object-Oriented Programming and Data Structures

Lab00 From C++ To Java

Exercise 1: I/O and Array

The following C++ program asks the user to provide the size and the elements of an integer array. It then prints and sums all integers in the array. Convert it to a Java program.

```
#include <iostream>
using namespace std;

int main() {
  int size;
  cout << "Enter size of array: ";
  cin >> size;

  int A[size];
  cout << "Enter " << size << " integer(s): ";
  for (int i = 0; i < size; i++)
    cin >> A[i];

  cout << "You entered: ";
  for (int i = 0; i < size; i++)
    cout << A[i] << " ";
  cout << endl;

  int sum = 0;
  for (int i = 0; i < size; i++)
    sum += A[i];

  cout << "Sum of array = " << sum;
}
```

Exercise 2: Strings and ArrayList

Convert the following C++ program to Java.
Note: In Java, we don't use operators '<', '>', and '==' to compare the content of objects (such as Strings). Use compareTo() and equal() method instead.

```
#include <iostream>
#include <vector>
using namespace std;

int main() {
  vector<string> words;
  string word;
  cout << "Enter 4 words: ";
  for (int i = 0; i < 4; i++) {
    cin >> word;
    words.push_back(word);
  }

  bool ascending = true;
```

```
  bool duplicate = false;
  for (int i = 0; i < 3; i++) {
    if (words[i] > words[i+1])
      ascending = false;
    if (words[i] == words[i+1])
      duplicate = true;
  }

  if (ascending)
      cout << "Words in ascending order\n";
  else
      cout << "Words not in ascending order\n";

  if (duplicate)
      cout << "Got duplicated words\n";
  else
      cout << "No duplicated words\n";
}
```