Topic: Arrays and Iterations

Activity Guidelines

Group Size: 2

Method of Assigning Students: Count the number of students in the class, divide by 2, count off from 1 to the quotient, and group identical numbers.

Materials:

- ✓ Whiteboard and markers
- ✓ Handout (one copy per group) with questions to be answered at the end of the session

Roles: Writer and presenter

Individual Accountability: The size of the group will be small to make sure everyone can participate. Also, each group will be observed during the activity to make sure all members are contributing.

Activity Summary

1. The purpose of this activity is to go over arrays and iterations which were the topic most students missed in the last exam.
2. In pairs student should solve the three problems in the handout.
3. As they are working on the problems peer leader should walk around and go student by student asking if they have any question.
4. When they are done with the three questions ask three random students to come up to the board to write and explain their answer to a question.
5. If 5 minutes before the session is over the students are not done with all the questions. The peer leader should explain the problems.

INTRODUCTION TO COMPUTER SCIENCE
      PEER SESSION

Arrays and Iterations

1. An array named score is used to keep the scores of a player for a month. The coach wants to know if the player is performing well in most games. Write a pseudo-code to find out if a player performed above average for at least half of the games in a given month. The average score should be based on all the scores of the player.

2. (Express solutions to programming problems, including the correct use of basic variable types such as integer, real number, character, string, 1-D array)

   An event management company has seven events planned for next seven days – one event per day. The company knows how many guests will attend each event. This information is stored in an array. The index indicates the day and the value in that index is the number of guests who will attend the event of that day. For all these events, the company needs to identify if the number of guests are even or odd, so that they can arrange the tables.

   Write a pseudo-code or a piece of code that traverses the array to (1) if the number of guest for a day is odd, show the number of guests and (2) show the total number of days with odd guests. For example, if the number guest for 7 days are {10, 31, 17, 18, 34, 37, 15}, the code it will print: **31, 17, 37, 15, 4 days with odd number of guests.**

3. (Express solutions to programming problems, including the correct use of basic control structures: if-then, for-loop, while-loop).

Assume you are writing a program that takes weather forecast and can determine if it will snow. Write a pseudo-code or a piece of code that takes the number of forecasts user would like to try out. For each of those forecasts, get the temperature and humidity from the user. For any given forecast, if temperature is below 32 and humidity if above 50, print "It will be a freezing day", otherwise print, "It will not snow". For example, your piece of code might result in this interaction:

```
Please insert the number of forecasts to test: 2
Please insert temperature and humidity: 56 85
It will not snow.
Please insert temperature and humidity: 30 55
It will be a freezing day.
```