Class Exercise

1. Implement a class **Student**. For the purpose of this exercise, a student has a name, total quiz score, and number of quizzes. Supply an appropriate constructor and methods *getName(), addQuiz( ), getTotalQuizScore( ),* and *getAverageScore( ).* The average quiz score is total quiz score / number od quizzes.

**Exercise 1: Implement Class**

public class Student {

private String studentName;

private double totalScore;

private int quizCount;

public Student(String name) {

studentName = name;

totalScore = 0;

quizCount = 0;

}

public String getName() {

return studentName;

}

public void addQuiz(int quizScore) {

totalScore = totalScore + quizScore;

quizCount = quizCount + 1;

}

public double getTotalScore() {

return totalScore;

}

public double getAverageScore() {

return totalScore / quizCount;

}

}

Array Programming Exercises

1. Write a method that receives two integer arrays a and b as parameters and copies all of the elements in b into a in reverse order and copies all elements of a into b in reverse order. Assume both arrays have the same length.

Example : a = {8, 2, 6, 9} Results: a = {2, 3, 7, 1}

b = {1, 7 ,3, 2} b = {9, 6, 2, 8}

1. Write a method that receives two parameters, an integer array, *myArray*, and a positive integer, *n*. Create a new array that copies the first *n* elements from *myArray* into the new array. If *n* is greater than the length of *myArray* then just copy all of the elements form *myArray* into the new array. The method returns the new array.

Example 1: myArray = {2, 5, 8, 3, 7}, n = 4 new array = {2, 5, 8, 3}

Example 2: myArray = {2, 5, 8, 3, 7}, n = 8 new array = {2, 5, 8, 3, 7}

1. Write a method that receives an integer array as a parameter. The method should create a new array containing all even integers first followed by all odd integers from the given array. The method returns the new array.

Example: a = {2, 5, 8, 3, 7, 1, 10} new array = {2, 8, 10, 5, 3, 7, 1}

1. Write a program to read in 5 scores (int) from the user via the keyboard and shows how much each score differs from the maximum score.

Example: Input: 8 6 2 1 9 5

Output: 8 differs from max by 1

6 differs from max by 3

2 differs from max by 7

1 differs from max by 8

9 differs from max by 0

5 differs from max by 4

**Exercise 2: Reverse Order**

public static void createReverseOrderArray( int [ ] a, int [ ] b ) {

int [ ] c = new int[a.length];

for ( int i = 0; i < a.length; i++ ) {

c[i] = a[a.length - i - 1];

}

for ( int i = 0; i < a.length; i++ ) {

a[i] = b[a.length - i - 1];

}

for ( int i = 0; i < a.length; i++ ) {

b[i] = c[i];

}

}

**Exercise 3: Copy Elements**

public static int [ ] copyElementsFromArray( int [ ] myArray, int n ) {

if ( myArray.length < n ) {

n = myArray.length;

}

int [ ] a = new int [n];

for ( int i = 0; i < a.length; i++ ) {

a[i] = myArray[i];

}

return a;

}

**Exercise 4: Even Odd Array**

public static int [ ] createEvenOdd( int [ ] myArray ) {

int [ ] a = new int[ myArray.length ];

int j = 0;

for ( int i = 0; i < myArray.length; i++ ) {

if ( myArray[ i ] % 2 == 0 ) {

a[j] = myArray[ i ];

j++;

}

}

for ( int i = 0; i < myArray.length; i++ ) {

if ( myArray[ i ] % 2 != 0 ) {

a[ j ] = myArray[ i ];;

j++;

}

}

return a;

}

**Exercise 5: Difference between scores and max**

import java.util.Scanner;

public class ArrayOfScores {

public static void main( String[ ] args ) {

Scanner keyboard = new Scanner(System.in);

int [ ] score = new int [ 5 ];

int index, max;

System.out.println("Enter 5 scores:");

score[0] = keyboard.nextInt( );

max = score[0];

for (index = 1; index < 5; index++) {

score[index] = keyboard.nextInt( );

if (score[index] > max)

max = score[index];

}

for (index = 0; index < 5; index++)

System.out.println( score[index] + " differs from max by "

+ (max - score[index]));

}

}