

CSCI 131, Midterm Exam2 – Review Partial Solutions

- 1) public static boolean someFunc(int alpha, int beta)
- 2) Type in to a program to get results.
- 3) Type in to a program to get results.
- 4a) public static double tenToThePower (int n) { //positive n only
 double result = 1.0;
 else for (int i = 0; i < n; i++)
 result = result * 10;
 return result; }
- 4b) double b = tenToThePower(8);
- 5) StdOut.println("Enter SSNs (0 to stop): ");
 int numPatients = 0;
 int num = StdIn.readInt();
 while (num > 0) {
 ssn[numPatients] = num;
 numPatients++;
 num = StdIn.readInt(); }
- 6a) checkers[1][2] = 5;
- 6b) for (int row = 0; row < 8; row++)
 for (int col = 0; col < 8; col++)
 checkers[row][col] = row*8 + col + 1;
- 7) public static void arrayRev(int[] source, int[] destination) {
 for (int i = 0; i < source.length; i++)
 destination[i] = source[source.length-1-i]; }
- 9) very similar to #9 on review #1, except now a function; return value instead of print.
- 10) left is correct.
- 11a) public static void fix (double rad) {
 StdOut.println("The perimeter of the circle "+"with radius "+rad+" is "+2*Math.PI*rad); }
- 13a) for (int i = 0; i < names.length; i++)
 StdOut.printf("%s is %d years old.\n",names[i], ages[i]);
- 13b) Need a selection statement in the for loop body
- 13c) public static int countAgeRange (int[] ages, int x, int y) {
 int count = 0;
 for (int i = 0; i < ages.length; i++)
 if (ages[i] >= x && ages[i] < y)
 count++;
 return count; }
- 13d) public static int ageOfStudent(String[] names, int[] ages, String target) {
 for (int i = 0; i < names.length; i++)
 if (names[i].equals(target)) return ages[i];
 return -1; }
- 14) Open file, read into two parallel arrays, count number of Cs or Fs. If more Cs, convert all temperatures in Fahrenheit to Celsius, e.g.
 for (int i = 0; i < days; i++)
 if (sys[i] == 'F') { tmp[i] = (tmp[i] - 32.0) * 5.0 / 9.0; sys[i] = 'C'; }
 Then write all to file.
- 15) public static int findWithinArray(String[] words, String target) {
 for (int i = 0; i < words.length; i++)
 if (words[i].equals(target)) return i;
 return -1; }
- 16) Read the candidate names from file into an array, then read the votes from the file and increment the parallel array for each candidate, be sure to count the spoiled votes. Loop through vote array and save the index of the highest value, and finally print the winner.

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17) public static void readData(String filename, String[] names, int[][] grades) {
    int numRows = grades.length;
    int numcols = grades[0].length;
    In file = new In(filename);
    for (int r = 0; r < numRows; r++) {
        names[r] = file.readString();
        for (int c = 0; c < numcols; c++) grades[r][c] = file.readInt();
    } file.close(); }

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18) Did this in class.

19) Very similar to lab problem

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20) In r = new In("full.txt");
    Out w = new Out("compress.txt");
    boolean first = true;
    int prev = 0;
    while (!r.isEmpty()) {
        int x = r.readInt();
        if (first || x != prev) w.print(x + " ");
        prev = x; first = false; }
    w.close(); r.close();

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21) Topic 17 lecture

22) Topic 17 lecture

23) Topic 17 lecture