

CS 1713 Exam 1 Solutions — Spring 2012

- 1) (6 points)
`Scanner scan = new Scanner(System.in);
System.out.println("Enter an integer:");
x = scan.nextInt();`
- 2) (5 points)
`System.out.println(Math.sqrt(2));`
- 3) (6 points)
`int[] a = {17, 17, 17, 17};`
- 4) (6 points)
`for (int i=a.length-1; i>=0; i--)
 System.out.println(a[i]);`
- 5) (5 points)
`Random rand = new Random();
System.out.println(rand.nextInt(10) + 1);`
- 6) (12 points)
`Random rand = new Random();
int x = rand.nextInt(10) + 1;
int y = rand.nextInt(10) + 1;
if (y > x)
 x = y;
y = rand.nextInt(10) + 1;
if (y > x)
 x = y;
System.out.println(x);`
- 7) (4 points each)
- a) `if (x >= 10 && x <= 20)
 System.out.println("x is in the interval");
else
 System.out.println("x is not in the interval");`
- b) `if (x >= 10 && x <= 20)
 System.out.println("x is in the interval");`
- c) `if (x < 10 || x > 20)
 System.out.println("x is not in the interval");`
- 8) (6 points)
`int sum = 0;
if (a.length == 0)
 System.out.println("The array is empty");
else {
 for (int i=0; i<a.length; i++)
 sum = sum + a[i];
 System.out.println((double)sum/a.length);
}`
- 9) (2 points each)
a) 4 b) 2.6 c) 10.67 d) $4 + 19.0/3 = 10.33$ e) 1 f) $2 + 3.8 = 5.8$
- 10) `public static double lightBulbCpst(int watts) {
 if (watts < 40)
 return 1.35;
 if (watts < 60)
 return 0.85;
 if (watts <= 100)
 return 1.50;
 return 2.00;
}`
- 11) (5 points) If the array has length 0, return -1. Otherwise return a position of the smallest value stored in the array.
- 12) (10 points)
- a) `public static int readSome() {
 Scanner scan = new Scanner(System.in);
 int last = scan.nextInt();
 int next;
 if (last < 0)
 return -1;
 next = scan.nextInt();
 while (next >= 0) {
 last = next;
 next = scan.nextInt();
 }
 return last;
}`
- b) It would crash with an exception thrown. To solve the problem, before reading an integer execute:
`while (!scan.hasNextInt())
 scan.next();`