

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

For the question(s) below, assume values is an int array that is currently filled to capacity, with the following values:

9	4	12	2	6	8	18
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- 1) What is returned by values[3]? 1) _____
 A) 9 B) 2 C) 6 D) 3 E) 12
- 2) Which of the following loops would adequately add 1 to each element stored in values? 2) _____
 A) for(j=1;j<values.length-1;j++) values[j]++;
 B) for(j=0;j<values.length;j++) values[j]++;
 C) for(j=1;j<values.length;j++) values[j]++;
 D) for(j=0;j<values.length-1;j++) values[j]++;
 E) for(j=0;j<=values.length;j++) values[j]++;
- 3) The statement System.out.println(values[7]); will 3) _____
 A) output nothing
 B) cause an ArrayOutOfBoundsException to be thrown
 C) cause a syntax error
 D) output 7
 E) output 18
- 4) Which of the following is a legal way to declare and instantiate an array of 10 Strings? 4) _____
 A) String[] s = new String[10];
 B) String[] s = new String;
 C) String s = new String(10);
 D) String s = new String[10];
 E) String[10] s = new String;

An int array stores the following values. Use the array to answer the question(s) below.

9	4	12	2	6	8	18
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- 5) Which of the following lists of numbers would accurately show the array after the first pass through the Selection Sort algorithm? 5) _____
 A) 9, 4, 12, 2, 6, 8, 18
 B) 4, 9, 12, 2, 6, 8, 18
 C) 2, 4, 9, 12, 6, 8, 18
 D) 2, 4, 6, 8, 9, 12, 18
 E) 2, 4, 12, 9, 6, 8, 18

For the question(s) below, assume an int array, candy, stores the number of candy bars sold by a group of children where candy[j] is the number of candy bars sold by child j. Assume there are 12 children in all.

6) What does the following code do? 6) _____
`bars[value1] += value2;`

- A) adds value2 to the number of bars sold by child value1
- B) adds 1 to the number of bars sold by child value1 and child value2
- C) adds value1 to the number of bars sold by child value2
- D) inputs a new value for the number of bars sold by both child value1 and child value2
- E) adds 1 to the number of bars sold by child value1

7) Which of the following code could be used to compute the total number of bars sold by the children? 7) _____

- A) `for(int j=0; j<12; j++) sum+= candy[j];`
- B) `for(int j=0; j<12; j++) candy[j] = sum;`
- C) `for(int j=0; j<12; j++) sum = candy[j];`
- D) `for(int j=0; j<12; j++) sum += [j];`
- E) `for(int j=0; j<12; j++) [j] += sum;`

8) What does the following method do? 8) _____

```
public int question15( )
{
    int value1 = 0;
    int value2 = 0;
    for(int j=0; j<12; j++)
        if(candy[j] > value1)
            {
                value1 = candy[j];
                value2 = j;
            }
    return value2;
}
```

- A) It returns the number of candy bars sold by the child who sold the most candy bars
- B) It returns the index of the child who sold the most candy bars
- C) It returns the total number of children who sold 0 candy bars
- D) It returns the total number of candy bars sold
- E) It returns the total number of children who sold more than 0 candy bars

9) Both the Insertion Sort and the Selection Sort algorithms have efficiencies on the order of _____ 9) _____
where n is the number of values in the array being sorted.

- A) $n * \log n$
- B) n
- C) Insertion sort has an efficiency of n and Selection Sort has an efficiency of n^2
- D) n^3
- E) n^2

- 10) If you had a two-dimensional int array called twoD, which of the following would you use to get the number or items in row 0? 10) _____
- A) twoD.length
 - B) twoD[0].length
 - C) twoD[r].length
 - D) twoD[r][c].length
 - E) twoD[0][0].length
- 11) What does the following code do? Assume list is an array of int values, temp is some previously initialized int value, and c is an int initialized to 0. 11) _____
- ```
for(j=0;j<list.length;j++)
 if(list[j] < temp) c++;
```
- A) It finds the largest value and stores it in temp
  - B) It counts the number of elements in list that are less than temp
  - C) It finds the smallest value and stores it in temp
  - D) It counts the number of elements equal to the smallest value in list
  - E) It sorts the values in list to be in ascending order
- 12) Which of the following statements loops through every element in the ArrayList <Integer> alist? 12) \_\_\_\_\_
- A) for (int item : alist)
  - B) for (alist : int item)
  - C) for (int alist : item)
  - D) for (int item = null; item : alist)
  - E) for (item in alist)
- 13) Which of the following correctly declares an ArrayList of Car objects? 13) \_\_\_\_\_
- A) ArrayList cars = Car;
  - B) ArrayList Car;
  - C) ArrayList[Car] cars;
  - D) ArrayList<Car> cars;
  - E) ArrayList Car[] cars;
- 14) Which of the following expressions gives the last element in the ArrayList alist? 14) \_\_\_\_\_
- A) alist.get(alist.size()-1)
  - B) alist.last()
  - C) alist.get(alist.size())
  - D) alist.get(alist.length())
  - E) alist.get(alist.last())
- 15) Which of the following statements adds item to the end of the ArrayList alist? 15) \_\_\_\_\_
- A) alist.add(item);
  - B) alist.set(alist.size()-1, item);
  - C) alist[alist.size()-1] = item;
  - D) item.addToEnd(alist);
  - E) both A and B