PROGRAMMING 1B PRACTICE TEST

1. A

2. C

3. C

4. A

5. D

6. C

7. B

8. B

9. B

10.

the answer is b4, if we look at the code we can see that the answer has to include b because it is declared, when we look at the output we can see that we looking for position 5 in the array which on the index would be 4 because we start like this: block 1=0,block 2=1, block 3=2 so block 5 would be 4.

11.

12.

13.

14.

a) Incorrect

b) Correct

c) Correct

QUESTION 3

a)Bubble sorting is an algorithm that sorts values in ascending or descending order from left to right, this takes 2 values at a time and swapping it, if the one is bigger than the other then they swap, this is a easy algorithm to use and is very fast aswell.

b) 0(n)

c)bubble sort has a time and space complexity of 0(0^2)

d)bubble sort is a sorting algorithm

e) 0 (n)

f) 0(n(2))

g) n^2

QUESTION4

a) a simple sorting algorithm that works by building a sorted array one element at a time and is from left to right in ascending or descending order, if the number is smaller it moves in front till sorted.

b)  consuming one input element each repetition, and grows a sorted output list. At each iteration, insertion sort removes one element from the input data, finds the location it belongs within the sorted list, and inserts it there. It repeats until no input elements remain.

c)time- 0(n^2)

space- 0(1)

d) when the number of all the elements are small

e) The main advantage of the insertion sort is its simplicity. It also exhibits a good performance when dealing with a small list. With n-squared steps required for every n element to be sorted, the insertion sort does not deal well with a huge list.