CS2050 – C Programming Quiz 4 FALL 2016

There are 10 questions on this quiz. DO NOT PUT YOUR ANSWERS ON THIS SHEET – RECORD THEM ON THE ANSWER SHEET ONLY.

1) Using the code below (IGNORE ALL COMPILE ERRORS)

void fred(int arr[], unsigned long int count)

{ int temp;

unsigned long int i, n=count, new\_n = 0;

do {

new\_n = 0;

for (i = 1; i < n; i++) {

if (arr[i - 1] > arr[i]) {

temp = arr[i];

arr[i] = arr[i - 1];

arr[i - 1] = temp;

new\_n = i; }

}

n = new\_n;

} while(n != 0);

}

A. T / F Recursion is used in this code.

B. What **specific** algorithm is this code designed to do?  
  
2) Use the following code to answer the next several questions:  
int sue ( int m, int n) {  
 if ( m < n ) return m\*m + sue( m + 1, n );  
 else return m \* m;  
}

A. What is the “base case” for the code above?

B. What does this function do?  
  
   
3) This graph was displayed to demonstrate the significant difference between two sorts discussed last week.

a) which sort is represented by the nearly flat line?

b) which sort is represented by the line that is climbing?

4) One peculiar thing we noticed in the Selection Sort analysis was as the number of elements increase:

a) the sorting time gets nearly dropped in half b) the sorting time nearly doubled

c) the sorting time gets exponentially worse d) None of the above

5) T / F One negative problem with recursion is that it repeatedly invokes function calls reducing processing time by stacking those calls.

6) In our discussion of “algorithm analyisis” the telephone book was used as an example to demonstrate a the highly efficient algorithm of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

7) T / F The choice of an algorithm depends critically on the structure of the data.

CS2050 – C Programming Quiz 4 NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fall 2016 LAB SECTION \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ANSWERS

1A. T / F  
  
  
 B.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2 A. \_m >= n\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
  
  
 B. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
  
3 A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
 B. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5 T / F

6 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7 T / F