ESC101 - QUIZ 3 Session 2

Total points

The quiz will be conducted in two sessions of 20 minutes each with a gap of 10 minutes in between two sessions.
Read all instructions mentioned in the problem statement carefully before attempting it and try to keep your answers precise. Make sure to submit your response on time. Auto-submission is not available and if you fail to submit on time, you will get zero marks.
If there are any issues like internet/power outage contact your Tutor ASAP.

Problem 5

Complete the code

Fill in the blanks so that the output is 1 3 7 13 21... for array contents 1,4,9,16,25.....

```
1  void sequence(int * ptr, int d) {
2    int x;
3    for (x = 0; x < d; x++)
4      ____(1)____ = * ptr - x;
5  }
6
7  main() {
8    int a[];
9    /* Assume that array is initialized with
10                a[] = 1,4,9,16,25....*/
11   int * k, i, len;
12   /* len holds the number of elements in a[]*/
13   len = _____(2)_____;
14   sequence(____(3)_____);
15   k = ____(4)____;
16   for (i = 0; i < len;)
17     printf("%d", *(k + ____(5)____));
18 }
```

(1)

*(ptr++)

Correct answer

*ptr++

(2)

sizeof(a)/sizeof(a[0])

Correct answer

sizeof(a)/sizeof(int)

(3)

a , len

Correct answers

a, len

a,len

✓ (4) 1/1

a

✓ (5)

i++ ✓

Problem 6 — 5 of 6 points

Choose if the following claims are true or false.

✓ 6.a. A structure can be nested inside another structure 1/1

- (●) True ✓
- ( ) False

✓ 6.b. Structure members can not be initialized at the time of declaration. 1/1

- (●) True ✓
- ( ) False

✓ 6.c.The first and second arguments of fopen() are A character string containing the name of the user & the second argument is the mode 1/1

- ( ) True
- (●) False ✓

✓ 6.d. Pwd stands for “present working directory” 1/1

- ○ True
- ◉ False ✓

✓ 6.e. If you open a file in “a+” mode in a fopen, file position for reading is at the beginning, but output is appended at the end 1/1

- ◉ True ✓
- ○ False

✗ 6.f. IF fp is type FILE* then !feof(fp) will evaluate to true when you reach end of file 0/1

- ◉ True ✗
- ○ False

Correct answer

- ◉ False

Problem 7 — 7 of 7 points

The following (incomplete) function removes a given element data from a doubly linked list. Note that the definition of a linked list node is provided in the comments below.

Complete the code so that it does the required task correctly.

```
/*
struct node {
   int data; struct node *prev; struct node *next;
};
*/

void remove_node(int data) {
   int pos = 0;
   struct node *pre_node;
   if(head==NULL) return;   // head stores pointer to the head of
       linked list
   if(head->data == data) {
      if(head->next != NULL) {
         head->_____________ = NULL;
         head = _____________;
         return;
      } else {
         head = NULL;
         return;
      }
   } else if(head->data != data && head->next == _____________)
      return;

   struct node *current = head;

   while(current->next != NULL && current->data != data) {
      pre_node = _____________;
      current = _____________;
   }

   if(current->data == data) {
      pre_node->next = pre_node->_____________;

      if(pre_node->next != NULL) {          // link back
         pre_node->_____________ = pre_node;
      }
      free(current);
   } else
      printf("%d not found in the list.", data);
}
```

✓ Line 13 1/1

next->prev ✓

✓ Line 14 1/1

head->next ✓

✓ Line 20 1/1

NULL ✓

✓ Line 26 1/1

current ✓

✓ Line 27 1/1

current->next ✓

✓ Line 31 1/1

next->next ✓

✓ Line 34 1/1

next->prev ✓