SCC 120 Introduction to Data Structures
Workshop Four: Linked Lists and Hexadecimal

1. Convert the following binary number to hexadecimal

1100 0101 1111 0001

2. Convert the following hexadecimal number to binary

1F7A

Consider the `deleteCell` function that deletes a node from a linked list. `node` is a structure in C and `header` is a pointer which stores the memory address of the first node of the list.

```
typedef struct _node{
     int data;
     struct _node* next;
}node;


node* deleteCell(node* header, int val)
{
     bool found = false;
     node *current = header;
     node *previous = NULL;

     while (!found && current!= NULL)
     {
          if (current->data == val){
               found = true;
          }
          else{
               previous = current;
               current = current->next;
          }
     }

     previous->next = current->next;
     current = NULL;
     return header;
}
```

3. Apart from the general case of deleting a node from somewhere in the middle of a list, there are some other special cases this function should handle. (1) empty chain; (2)list has only one node, where the value to be deleted presents; (3)the value to be deleted is not in the list.
For each special case, show which part of this function will lead to a runtime error.

4. Re-write the function as necessary to make it work for all the special cases you identified.