CSI 333 – Systems Fundamentals

Lab 5 – Linked Lists

In Java, you might have made a Node class in ICSI213 that you could use for a linked list:

```
Class Node {
        Object Data;
        Node Next;
}
```

In C, of course, there are no objects and no references, only pointers. It is typical in C to make a struct to create a linked list node. You could create your node struct with a void * to point to the data (like we did above). This is a bit wasteful, but very reusable. The other approach is to create a very specific linked list. For example, a node that contains a float:
`struct floatNode { float data; struct floatNode *next;}`

Remember that there is no "new" in C, you need to use malloc and free.

In C, you can use rand() to get a random number between 0 and ~4,000,000,000. You need to initialize the random number system with a seed value. The most typical way to do that is with the current time:

```
srand(time(0));
```

Your assignment:

Create a program that generates random number between 0 and 50 and puts them into a linked list. When it generates 49, instead of adding it to the list, it prints the list, freeing each node and then exits. Submit your .c file.