16.216: ECE Application Programming
Fall 2014

Lecture 34: Key Questions
December 3, 2014

1. Explain the use of general data structures and pointer-based data structures in particular.

2. Describe the general design of a linked list.

3. Describe the structure used for each node in the list.

4. Explain the operation of the following function, which adds a node to the beginning of the
    list and returns a pointer to that node.

```
LLnode *addNode(LLnode *list, int v) {
  LLnode *newNode;
  // Allocate space for new node; exit if error
  newNode = (LLnode *)malloc(sizeof(LLnode));
  if (newNode == NULL) {
    fprintf(stderr,
              "Error: could not allocate new node\n");
    exit(0);
  }
  newNode->value = v;     // Copy value to new node
  newNode->next = list;  // next points to old list
  return newNode;
}
```