

COSC 501

Lab 12

Program 1: Linked List

The following program creates a linked list with three names:

```
#include <iostream>
#include <string>
using namespace std;
struct Node
{
    string name;
    Node *link;
};
typedef Node* NodePtr;
int main()
{
    NodePtr listPtr, tempPtr;
    listPtr = new Node;
    listPtr->name = "Emily";

    tempPtr = new Node;
    tempPtr->name = "James";
    listPtr->link = tempPtr;

    tempPtr->link = new Node;
    tempPtr = tempPtr->link;
    tempPtr->name = "Joules";
    tempPtr->link = NULL;
    return 0;
}
```

Add code to the main function that:

- a. Outputs in order all names in the list.
- b. Inserts the name “Joshua” in the list after “James” then outputs the modified list.
- c. Deletes the node with “Joules” then outputs the modified list.
- d. Deletes all nodes in the list.