

Barthelemy Peter
bapeter
CS1350
Program 2
linkedList
Due Date: 9/29/17

Design Document

Design and implement a class node to use to implement a linked list containing one hundred integers. Data should be read from a file. Manipulate the list so that it can be printed in 5 columns. User input is required for further manipulation of the program because they should be able to display the node of any item in the list.

Calculations

Producing 5 columns

List size = 100

List size/5 = 20 rows

```
For(int i= 0 ; i<rows;i++){  
for(int j =0; j< column; j++){  
statements;  
}  
}
```

UML

```
+ void addNode(int addData);  
+ void printList();  
+ void displayNode();  
+ linkedList();  
+ ~linkedList();  
- struct node  
{  
- int data;  
- node* link;  
};  
- node* tail;  
- node* head;  
- node* current;  
- node* temp;
```

Reflection

What I Learned:

From completing this program, I learned a little about pointers and how they can be used to create a linked list. Also, I learned various ways to manipulate this list.

Challenges:

My biggest challenge was trying to grasp the concepts of what pointers should do and what should be done to implement them correctly. However, I do not think that I fully grasped this topic through this project.

Solutions:

Despite not being able to fully comprehend what was happening in my code I was able to complete this program through research and prior knowledge of creating algorithms.

Output Listing

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
41	42	43	44	45
46	47	48	49	50
51	52	53	54	55
56	57	58	59	60
61	62	63	64	65
66	67	68	69	70
71	72	73	74	75
76	77	78	79	80
81	82	83	84	85
86	87	88	89	90
91	92	93	94	95
96	97	98	99	100

Select any item by numerical position
input: 68

Item at position: 68
node points to 68
node is at 0x7ff36a403320

Head is at 0x7ff36a400030
Head data:1

Tail is at 0x7ff36a403330
Tail data:69
