

CreatList.cpp

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1 /*****
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4 * LAB #10     : Creating an Ordered List
5 * CLASS       : CS 1B
6 * SECTION     : MW - 7:30 pm
7 * DUE DATE    : 11/05/2019
8 *****/
9 * CreatsList
10 *****/
11 * This function Creates a linked list adding each node in alphabetical order
12 * from the input file.
13 *****/
14
15 #include "MyHeader.h"
16
17 void CreatList(PersonNode *&head)
18 {
19
20     fstream    inFile;
21
22     //OPEN FILE
23
24     inFile.open("inFile.txt");
25
26     PersonNode *persPtr;    //In & Calc - node to input data
27     PersonNode *searchPtr;  //Calc - node to go through the loop
28     PersonNode node;        //In - node to set the input into main
29                             // main linked list
30
31     bool found;             //Proc - lcv varibale
32
33     persPtr = head;
34
35     while (inFile)
36     {
37         //FIRST INPUT
38
39         getline(inFile, node.name);
40         inFile.get(node.gender);
41         inFile >> node.age;
42         inFile.ignore(10000, '\n');
43
44         //CREATE A NEW NODE
45
46         persPtr = new PersonNode;
47         *persPtr = node;
48         searchPtr = head;
49
50         found = false;
51
52         //IF EMPTY
53         if (head == NULL)
54         {
55

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```
56     persPtr -> next = head;
57     persPtr -> prev = NULL;
58     head          = persPtr;
59     persPtr        = NULL;
60
61 }
62
63 //ADDING IN TO THE FRONT
64
65 else if(head -> name > persPtr -> name)
66 {
67
68     persPtr -> prev = NULL;
69     persPtr -> next = head;
70     head -> prev    = persPtr;
71     head            = persPtr;
72     persPtr         = NULL;
73
74 }
75
76 else
77 {
78     //COMPARING NODES TO SEE WHICH SHOULD GO WHERE
79
80     while ((searchPtr -> next != NULL) && !found)
81     {
82
83         if (searchPtr -> next -> name > persPtr -> name)
84         {
85
86             found = true;
87
88         }
89
90         else
91         {
92
93             searchPtr = searchPtr -> next;
94
95         }
96     }
97
98     //TAIL
99
100     if(searchPtr -> next == NULL)
101     {
102
103         persPtr -> next = NULL;
104         persPtr -> prev = searchPtr;
105         searchPtr -> next = persPtr;
106
107         persPtr = NULL;
108     }
109
110     //MIDDLE
```

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```
111
112     else
113     {
114
115         persPtr -> next = searchPtr -> next;
116         persPtr -> prev = searchPtr;
117         searchPtr -> next -> prev = persPtr;
118         searchPtr -> next = persPtr;
119
120         searchPtr = persPtr = NULL;
121
122     }
123
124 } // END - ELSE
125
126 cout << "Adding: " << node.name << endl;
127
128 } // END - WHILE
129
130 //CLOSE FILE
131
132 inFile.close();
133
134 cout << endl;
135
136 }
137 }
138
139
140
141
142
```