

dept.c

```
1 /*
2  * dept.c
3  *
4  * Created on: Sep 8, 2017
5  * Author: Nathaniel Churchill
6  */
7 #include <stdlib.h>
8 #include <string.h>
9 #include "dept.h"
10 /*
11 * creates a Dept in memory
12 *
13 * deptName : the department name
14 * deptCode : the department code
15 * mgrId : the manager id
16 * returns: Dept
17 */
18 Dept *allocDept(char *deptName, char *deptCode, char *mgrId) {
19     Dept *dept = malloc(sizeof Dept);
20     dept->deptName = malloc(strlen(deptName) + 1);
21     strcpy(dept->deptName, deptName);
22     dept->deptCode = malloc(strlen(deptCode) + 1);
23     strcpy(dept->deptCode, deptCode);
24     dept->mgrId = malloc(strlen(mgrId) + 1);
25     strcpy(dept->mgrId, mgrId);
26     dept->noEmps = 0;
27     dept->manager = NULL;
28     return dept;
29 }
30
31 /*
32 * Adds an employee to the given department
33 *
34 * dept : the department to the employee to
35 * emp : the employee to add to eh department
36 *
37 */
38 void addEmployee(Dept *dept, Emp *emp) {
39     dept->emps[dept->noEmps++] = emp;
40 }
41
42 /*
43 * Gets a manager for a given department if not already set
44 *
45 * dept : the department to find the manager for
46 * returns : the manager
47 */
48 Emp *getManager(Dept *dept) {
49     if (dept->manager == NULL) {
50         for (int i = 0; i < dept->noEmps; i++) {
51             Emp *emp = dept->emps[i];
52             if (strcmp(emp->empId, dept->mgrId) == 0) {
53                 dept->manager = emp;
54                 break;
55             }
56         }
57     }
```

dept.c

```
58
59     return dept->manager;
60 }
61
62
63 int getTotalVacationDays (Dept *dept) {
64     int totalVacationDays = 0;
65     int counter = 0;
66     for (counter = 0; counter < dept->noEmps; counter++) {
67         totalVacationDays += dept->emps[counter]->vacationDays;
68     }
69     return totalVacationDays;
70 }
71
```