

Data Structures



ASSIGNMENT # 02

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Q1:

```
● pyrot@pyrot-samsung:~/Music/Lab DataStrucuter/Asssss
Write a message Hello i am first
Write priority 1
Write a date 2
Write a message Hello i am Qasim ali
Write priority -1
Write a date 2
Hello i am first
● pyrot@pyrot-samsung:~/Music/Lab DataStrucuter/Asssss
Write a message hi guys
Write priority 2
Write a date 4
Write a message new i am here
Write priority 1
Write a date 2
hi guys
○ pyrot@pyrot-samsung:~/Music/Lab DataStrucuter/Asssss
```

```
./ Q1
● pyrot@pyrot-samsung:~/Music/Lab DataStrucuter/Asssss
Assessment#02"
● pyrot@pyrot-samsung:~/Music/Lab DataStrucuter/Asssss
Write a message i am qasim ali
Write priority 0
Write a date 2
Write a message hello this is assessment 2
Write priority 1
Write a date 2
i am qasim ali
○ pyrot@pyrot-samsung:~/Music/Lab DataStrucuter/Asssss
```

Q2:

```
./ Q2
pyrot@pyrot-samsung:~/Music/Lab DataStrucuter/Assss
Assessment#02"
pyrot@pyrot-samsung:~/Music/Lab DataStrucuter/Assss
3 -> 4 -> 5 -> 7 -> 10 -> 20 ->
Searching node of 10::found
Ancestor of 20 is:: 10 -> 7 -> 5 ->
o Ancestor of 3 is:: 4 -> 5 -> pyrot@pyrot-samsung:~/
```

Q3:

```
44 str = (char*) malloc(sizeof(char) * (strlen(begin)+ strlen(end) + 1));
45 if (str == NULL) exit(1);
46 str = strcpy(str, begin);
47 str = strcat(str, end);
48 return str;
49 }
50
51 void addSolution(char* solution)
52 {
53     //char *second= new char("hello");    dynamic allocation
54     char *str = (char*) malloc(sizeof(char) * strlen(solution) + 1);
55     if (str == NULL) exit(1);
56     n_solutions++;
57     solutions = (char**) realloc(solutions, sizeof(char*) * n_solution);
58     if (solutions == NULL)
59     {
60         free(solutions);
61         exit(1);
62     }
63 }
64
65 int main()
66 {
67     char *begin = "1";
68     char *end = "1";
69     char *str = NULL;
70     str = concat(begin, end);
71     addSolution(str);
72     return 0;
73 }
```

1.1.1.1
1.1.1.2
1.2.1
2.1.1
2.2

aleeasghar:~/Documents/ccode\$ cd ~/home/ali/Documents/ccode\$
./c_to_c
aleeasghar:~/Documents/ccode\$./c_to_c
Enter the number = 5

1.1.1.1.1
1.1.1.2
1.1.2.1
1.2.1.1
1.2.2
2.1.1.1
2.1.2
2.2.1

aleeasghar:~/Documents/ccode\$

```
c_to_cpp > addSolution(char*)
1  #include <iostream>
2  #include <string.h>
3
4
5  using namespace std;
6
PROBLEMS 3 OUTPUT TERMINAL JUPYTER DEBUG CONSOLE
Enter the number = 9

1,1,1,1,1,1,1,1,1
1,1,1,1,1,1,1,1,2
1,1,1,1,1,1,2,1,1
1,1,1,1,1,2,1,1,1
1,1,1,1,1,2,2
1,1,1,1,2,1,1,1,1
1,1,1,1,2,1,2
1,1,1,1,2,2,1
1,1,1,2,1,1,1,1,1
1,1,1,2,1,1,2
1,1,1,2,1,2,1
1,1,1,2,2,1,1
1,1,1,2,2,2
1,1,2,1,1,1,1,1,1
1,1,2,1,1,1,2
1,1,2,1,1,2,1
1,1,2,1,2,1,1
1,1,2,1,2,2
1,1,2,2,1,1,1,1
1,1,2,2,1,2
1,1,2,2,2,1
1,2,1,1,1,1,1,1,1
1,2,1,1,1,1,2
1,2,1,1,1,2,1
1,2,1,1,2,1,1
1,2,1,2,1,1
1,2,1,2,2
1,2,1,2,2,1,1
1,2,1,2,2,1
1,2,1,2,2,2
1,2,2,1,1,1,1,1
1,2,2,1,1,2
1,2,2,1,1,2,1
1,2,2,1,2,1,1
1,2,2,1,2,2
1,2,2,2,1,1,1
1,2,2,2,1,2
1,2,2,2,2,1
```

```
1,2,2,2,2,1
1,2,2,2,2,1,1
1,2,2,2,2,2
2,1,1,1,1,1,1,1,1
2,1,1,1,1,1,2
2,1,1,1,1,2,1
2,1,1,1,2,1,1
2,1,1,1,2,2
2,1,1,2,1,1,1
2,1,1,2,1,2
2,1,1,2,2,1
2,1,2,1,1,1,1
2,1,2,1,1,2
2,1,2,1,2,1
2,1,2,2,1,1
2,1,2,2,2
2,2,1,1,1,1,1
2,2,1,1,1,2
2,2,1,1,2,1
2,2,1,2,1,1
2,2,1,2,2
2,2,2,1,1,1
2,2,2,1,2
2,2,2,2,1
```

alee@asghar:~/Documents/ccode\$