03. Quiz

Quiz [1-1]

- **Declarations and Prototypes**

```
#ifndef DATASET
#define DATASET
typedef struct
{
    int rows;
    int cols;
    int length;
    EType *elem;

} DataSet;
#endif

#ifndef STEMNODE
#define STEMNODE
typedef struct stemnode
{
    int stem;
    int freq;
    EType *leaf;
    struct stemnode *next;

} StemNode;
#endif
```

```
#ifndef STEMPLOTLIST
#define STEMPLOTLIST
typedef struct
{
    StemNode *head;
    StemNode *tail;

} StemPlotList;
#endif
```

Quiz [1-2]

- **Declarations and Prototypes**

```
static DataSet *CreateDataSet(const int rowsDataSet, const int colsDataSet, const int
lengthDataSet);
static void DestroyDataSet(DataSet *dataSet);

static StemNode *CreateStemNode(const int elemSize, const int stemValue);
static void DestroyStemNode(StemNode *stemNode);

static StemPlotList *CreateStemPlotList(void);
static void DestroyStemPlotList(StemPlotList *stemPlotList);

static StemPlotList *ComputeStemPlotList(DataSet * dataSet);

static void AddStemNode(StemPlotList *stemPlotList, StemNode *stemNode);
static void PrintLeaf(StemNode *stemNode);
static void PrintStemPlotList(StemPlotList *stemPlotList);
static void PrintData(DataSet *dataSet);

static void SortQuick(EType *dataSet, const int posLeft, const int posRight);
static void Swap(EType *src, EType *dst);
```

Quiz [1-3]

- Data: “sample.data”

```
5 10 50
65 62 73 85 65 46 36 49 81 76
60 44 43 72 32 33 83 46 64 49
12 74 91 78 60 48 24 62 54 97
69 31 89 96 96 97 86 88 85 61
95 54 85 89 51 77 81 72 47 35
```

```
Print DataSet
65 62 73 85 65 46 36 49 81 76
60 44 43 72 32 33 83 46 64 49
12 74 91 78 60 48 24 62 54 97
69 31 89 96 96 97 86 88 85 61
95 54 85 89 51 77 81 72 47 35

Stem Plot List

   Stem (Freq')|                Leaf
 ----------------------------------------------------
       1 (  1) | 2
       2 (  1) | 4
       3 (  5) | 1 2 3 5 6
       4 (  8) | 3 4 6 6 7 8 9 9
       5 (  3) | 1 4 4
       6 (  9) | 0 0 1 2 2 4 5 5 9
       7 (  7) | 2 2 3 4 6 7 8
       8 ( 10) | 1 1 3 5 5 5 6 8 9 9
       9 (  6) | 1 5 6 6 7 7
계속하려면 아무 키나 누르십시오 . . .
```

Back to Back Stem and Leaf Plot [2–1]

- A back-to-back stem-and-leaf plot is useful for comparing two distributions. Below is a back to - back stem-and-leaf plot showing the heights (in inches) of male and female students in a recent statistics class. The stems for both sets of observations are in the middle of the plot while the leaves for the two data sets are on either side of the stem column.

Female		Male
9	5	
1 1 1 1 1 1 1 0	6	
3 3 3 2 2 2 2 2	6	
5 5 5 5 5 5 4 4 4 4 4 4 4 4 4 4	6	5
7 7 7 7 6 6	6	6 7
9 8 8 8 8	6	8 8 8 8 9 9 9 9
0 0	7	0 0 0 0 0 0 1 1 1 1 1 1
	7	2 2 2 2 2 2 3 3
	7	4 4 4 5 5
	7	6 7

- Note: for male students 6 | 8 represents 68 inches;
  for female students 1 | 6 represents 61 inches.

Quiz [2-2]

- Data: “hbp.dat”

```
4 10 35
56 57 58 59 69 68 68 68 66 66
65 64 62 79 79 78 78 77 76 75
75 74 73 72 71 70 85 84 84 83
82 82 81 96 94
```

Data: “nbp.dat”

```
4 10 33
53 55 56 57 58 59 60 61 61 61
62 62 63 64 65 65 66 67 68 69
70 71 72 73 74 76 77 78 80 9
82 83 96
```

```
Print Left
56 57 58 59 69 68 68 68 66 66
65 64 62 79 79 78 78 77 76 75
75 74 73 72 71 70 85 84 84 83
82 82 81 96 94

Print Right
53 55 56 57 58 59 60 61 61 61
62 62 63 64 65 65 66 67 68 69
70 71 72 73 74 76 77 78 80 9
82 83 96

                     Left :      Stem     : Right
 ------------------------------------------------------------------------
                          : (  0) 0 (  1) : 9
                  9 8 7 6 : (  4) 5 (  6) : 3 5 6 7 8 9
          9 8 8 8 6 6 5 4 2 : (  9) 6 ( 14) : 0 1 1 1 2 2 3 4 5 5 6 7 8 9
  9 9 8 8 7 6 5 5 4 3 2 1 0 : ( 13) 7 (  8) : 0 1 2 3 4 6 7 8
            5 4 4 3 2 2 1 : (  7) 8 (  3) : 0 2 3
                    6 4 : (  2) 9 (  1) : 6

계속하려면 아무 키나 누르십시오 . . .
```