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Quiz 4

Name and student ID

int x[10][10];

Let `length[i]` be the desired length of row `i` of a two dimensional array.
Write a function similar to `make2dArray()` to create a two dimensional array such that row `i` has `length[i]` elements.

C quiz4.c > ...

```
1  #include <stdio.h>
2  #include <stdlib.h>
3
4  int main(void)
5  {
6
7      int length[10];
8      int *array[10];
9      for (int i = 0; i < 10; i++){
10         length[i] = i+1;
11     }
12
13     for (int i = 0; i < 10; i++)
14     {
15         array[i] = malloc(sizeof(int) * length[i]);
16     }
17
18     return 1;
19 }
```

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

JUPYTER

```
● → 2022-2-data-structure git:(main) x gcc -o quiz4 quiz4.c
○ → 2022-2-data-structure git:(main) x
```

Quiz 5

Name and student ID

Develop a structure to represent each of the following geometric objects: rectangle, triangle, and circle.

```
C practice.c  C practice2.c  C quiz5.c U X
C quiz5.c > main(void)
1  #include <stdio.h>
2
3  int main(void)
4  {
5      typedef struct
6      {
7          float x;
8          float y;
9      } point; // 꼭 선언한 애를 뭐로 부를지 정해야함
10
11      struct
12      {
13          point p1, p2, p3, p4;
14      } rectangle;
15
16      struct
17      {
18          point p1, p2, p3;
19      } triangle;
20
21      struct circle
22      {
23          point center;
24          float radius;
25      };
26  }
27
```

Quiz 6

Name and student ID

Implement `Remove()` and `Attach()` in slide 21 using polynomial representation in slide 22.

```
C quiz6.c > attach(float**, float**)
1  #include <stdio.h>
2  #include <stdlib.h>
3
4  // remove, attach
5  float *Remove(float **, int);
6  float *Attach(float **, float **);
7
8  int main(void) =
16
17  float *Remove(float **pol, int leadexp)
18  {
19      *pol[0] = leadexp;
20      int lenofpol = sizeof(*pol) / sizeof(int *);
21      *pol[lenofpol - leadexp] = 0;
22  }
23
24  // coef, expon 을 그냥 배열로 다 보내버림
25  float *attach(float **pol1, float **pol2)
26  {
27      float leadexp1 = *pol1[0];
28      float leadexp2 = *pol2[0];
29
30      int sizeofnewpol = sizeof(leadexp1) / sizeof(float *);
31
32      float *resultpol; // empty array for new polynomial
33      resultpol = malloc(sizeofnewpol); // resultpol의 선언까지 함. 위에 여기에 채워넣으면 된다
34
35      int maxleadexp;
36
37      maxleadexp = leadexp1;
38
39      if (leadexp2 >= leadexp1)
40      {
41          maxleadexp = leadexp2;
42      }
43
44      for (int i = 0; i < maxleadexp + 1; i++)
45      {
46          resultpol[i] = *pol1[i] + *pol2[i];
47      }
48      return resultpol;
49  }
50
```

PROBLEMS 20 OUTPUT DEBUG CONSOLE TERMINAL JUPYTER

```
int remove(const char *);
quiz6.c:17:8: error: conflicting types for 'remove'
float *remove(float **pol, int leadexp)
/Library/Developer/CommandLineTools/SDKs/MacOSX.sdk/usr/include/stdio.h:174:6: note: previous declaration is here
int remove(const char *);
2 errors generated.
- 2022-2-data-structure git:(main) x gcc -o quiz6 quiz6.c
quiz6.c:22:1: warning: non-void function does not return a value [-Wreturn-type]
}
^
1 warning generated.
- 2022-2-data-structure git:(main) x []
```