

과제 10 - 6

```
#include <stdio.h>
#include <stdlib.h>

int main(void) {
    int size;
    int tmp;

    printf("Type the length of array: ");
    scanf("%d", &size);

    int *array = (int *)malloc(size*sizeof(int));

    printf("Type the elements of array: ");
    for (int i=0; i<size; i++) {
        scanf("%d", &tmp);
        array[i] = tmp;
    }

    for (int j=0; j<size; j++) {
        printf("%d ", array[j]);
    }

    free(array);

    return 0;
}
```

● → **Tasks** ./task10-6

Type the length of array: 5

Type the elements of array: 1 2 3 4 5

1 2 3 4 5 %

과제 10 - 7

```
#include <stdio.h>
#include <stdlib.h>

int main(void) {
    int size;
    int tmp;

    printf("Type the length of array: ");
    scanf("%d", &size);

    int *array = (int *)malloc(size*sizeof(int));
    array = realloc(array, size*sizeof(int));

    printf("Type the elements of array: ");
    for (int i=0; i<size; i++) {
        scanf("%d", &tmp);
        array[i] = tmp;
        array[i+size] = tmp;
    }

    for (int j=0; j<size*2; j++) {
        printf("%d ", array[j]);
    }

    free(array);

    return 0;
}
```

● → **Tasks** ./task10-7

Type the length of array: 5
Type the elements of array: 1 2 3 4 5
1 2 3 4 5 1 2 3 4 5 %

● → **Tasks** ./task10-7

Type the length of array: 3
Type the elements of array: 1 3 5
1 3 5 1 3 5 %

과제 10 – 8

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

int main(void) {
    int tmp;
    int size = 2;

    int *vector = (int *)malloc(size*sizeof(int));

    for (int i=0; i<4; i++) {
        printf("Type the values: ");
        scanf("%d", &tmp);

        if (i+1 >= size) {
            size *= 2;
            vector = realloc(vector, size*sizeof(int));
        }
        vector[i] = tmp;

        for (int j=0; j<i+1; j++) {
            printf("%d ", vector[j]);
        }
        printf("(Capacity: %d)\n", size);
    }

    free(vector);

    return 0;
}
```

● → **Tasks** ./task10-8

```
Type the values: 1
1 (Capacity: 2)
Type the values: 2
1 2 (Capacity: 4)
Type the values: 3
1 2 3 (Capacity: 4)
Type the values: 4
1 2 3 4 (Capacity: 8)
```

과제 10 – 9

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

int main(void) {
    int row_size;
    int column_size;
    double average = 0;

    printf("Give the row and column length: ");
    scanf("%d %d", &row_size, &column_size);

    int **row = (int **)malloc(row_size*sizeof(int*));
    for (int i=0; i<row_size; i++) {
        row[i] = (int *)malloc(column_size*sizeof(int));
        printf("Give the #%d row elements: ", i+1);
        for (int j=0; j<column_size; j++) {
            scanf("%d", &row[i][j]);
            average += row[i][j];
        }
        free(row[i]);
    }
    free(row);

    printf("The average is %.1lf", average/(row_size*column_size));

    return 0;
}
```

● → Tasks ./task10-9

```
Give the row and column length: 3 4
Give the #1 row elements: 1 2 3 4
Give the #2 row elements: 0 0 0 0
Give the #3 row elements: 1 0 0 1
The average is 1.0%
```

과제 10 – 10

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

int main(void) {
    int row_size;
    int column_size;
    double average = 0;

    printf("Give the row and column length: ");
    scanf("%d %d", &row_size, &column_size);

    int **row = (int **)malloc(row_size*sizeof(int*));
    for (int i=0; i<row_size; i++) {
        row[i] = (int *)malloc(column_size*sizeof(int));
        printf("Give the #%d row elements: ", i+1);
        for (int j=0; j<column_size; j++) {
            scanf("%d", &row[i][j]);
            average += row[i][j];
        }
    }

    for (int h=0; h<column_size; h++) {
        for (int t=0; t<row_size; t++) {
            printf("%d ", row[t][h]);
        }
        printf("\n");
    }

    for (int k=0; k<row_size; k++) {
        free(row[k]);
    }
    free(row);

    return 0;
}
```

● → Tasks ./task10-10

```
Give the row and column length: 3 4
Give the #1 row elements: 1 2 3 4
Give the #2 row elements: 0 0 0 0
Give the #3 row elements: 1 0 0 1
1 0 1
2 0 0
3 0 0
4 0 1
```