C Lab Week: 5

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Section: N
Batch: N-2

```c
#include <stdio.h>
int main() {
    int n;
    printf("Enter the size of the array: ");
    scanf("%d", &n);
    int arr[n];
    int unique[n];
    int uniqueCount = 0;
    for (int i = 0; i < n; i++) {
        printf("Enter element %d: ", i+1);
        scanf("%d", &arr[i]);}
    for (int i = 0; i < n; i++) {
        int isDuplicate = 0;
        for (int j = 0; j < uniqueCount; j++) {
            if (arr[i] == unique[j]) {
                isDuplicate = 1;
                break;}}
        if (!isDuplicate) {
            unique[uniqueCount] = arr[i];
            uniqueCount++;}}
    printf("Unique elements in the array:\n");
    for (int i = 0; i < uniqueCount; i++) {
        printf("%d ", unique[i]);}printf("\n");}
```

```
Enter the size of the array: 15
Enter element 1: 5
Enter element 2: 5
Enter element 3: 5
Enter element 4: 1
Enter element 5: 2
Enter element 6: 3
Enter element 7: 4
Enter element 8: 5
Enter element 9: 6
Enter element 10: 7
Enter element 11: 7
Enter element 12: 8
Enter element 13: 9
Enter element 14: 12
Enter element 15: 1
Unique elements in the array:
5 1 2 3 4 6 7 8 9 12


=== Code Execution Successful ===
```

```c
#include <stdio.h>

int main() {
    int n;
    printf("Enter the dimension: ");
    scanf("%d", &n);
    int arr[n];
    int freq[100] = {0};
    for (int i = 0; i < n; i++) {
        printf("Enter a +ve integer: ");
        scanf("%d", &arr[i]);
        freq[arr[i]]++;
    }
    printf("Frequencies of entered integers:\n");
    for (int i = 0; i < 100; i++) {
        if (freq[i] > 0) {
            printf("%d: %d\n", i, freq[i]);
        }
    }
    return 0;
}

```

```
Enter the dimension: 10
Enter a +ve integer: 1
Enter a +ve integer: 1
Enter a +ve integer: 1
Enter a +ve integer: 78
Enter a +ve integer: 87
Enter a +ve integer: 78
Enter a +ve integer: 4
Enter a +ve integer: 5
Enter a +ve integer: 5
Enter a +ve integer: 3
Frequencies of entered integers:
1: 3
3: 1
4: 1
5: 2
78: 2
87: 1


=== Code Execution Successful ===
```

```c
#include <stdio.h>
int main() {
    int dim;
    printf("Enter the dimension of the matrix (integer): ");
    scanf("%d", &dim);
    int mat1[dim][dim], mat2[dim][dim];
    int add[dim][dim];
    for(int i=0; i<dim; i++) {
        for(int j=0; j<dim; j++) {
        printf("Enter element [%d][%d] of matrix 1: ", i+1, j+1);
        scanf("%d", &mat1[i][j]); }}
    for(int i=0; i<dim; i++) {
        for(int j=0; j<dim; j++) {
            printf("Enter element [%d][%d] of matrix 2: ", i+1, j+1
                );scanf("%d", &mat2[i][j]);}}
    for(int i=0; i<dim; i++) {
        for(int j=0; j<dim; j++) {
            add[i][j] = mat1[i][j] + mat2[i][j];
        }}printf("Resulting Matrix:\n");
    for(int i = 0; i < dim; i++) {
        for(int j = 0; j < dim; j++) {
            printf("%d ", add[i][j]);}printf("\n");}}
```

```
Enter the dimension of the matrix (integer): 2
Enter element [1][1] of matrix 1: 1
Enter element [1][2] of matrix 1: 3
Enter element [2][1] of matrix 1: 5
Enter element [2][2] of matrix 1: 7
Enter element [1][1] of matrix 2: 0
Enter element [1][2] of matrix 2: 2
Enter element [2][1] of matrix 2: 4
Enter element [2][2] of matrix 2: 6
Resulting Matrix:
1 5
9 13


=== Code Execution Successful ===
```

```c
#include <stdio.h>

int main(){
    int dim;
    printf("Enter the dimension of the matrix: ");
    scanf("%d", &dim);
    int mat[dim][dim];
    for (int i=0; i<dim; i++){
        for (int j=0; j<dim; j++){
            printf("Enter element [%d][%d]: ", i+1, j+1);
            scanf("%d", &mat[i][j]);}}
    for(int i=0; i<dim; i++){
        if(i%2==0){
            for(int j=0; j<dim; j++){
                printf("%d ", mat[i][j]);}}
        else{
            for(int j=dim-1; j>=0; j--){
                printf("%d ", mat[i][j]);
            }}printf("\n");}}
```

```
Enter the dimension of the matrix: 4
Enter element [1][1]: 1
Enter element [1][2]: 2
Enter element [1][3]: 3
Enter element [1][4]: 4
Enter element [2][1]: 5
Enter element [2][2]: 6
Enter element [2][3]: 7
Enter element [2][4]: 8
Enter element [3][1]: 9
Enter element [3][2]: 10
Enter element [3][3]: 11
Enter element [3][4]: 12
Enter element [4][1]: 13
Enter element [4][2]: 14
Enter element [4][3]: 15
Enter element [4][4]: 16
1 2 3 4
8 7 6 5
9 10 11 12
16 15 14 13
```