ASSIGNMENT-1

```cpp
using namespace std;

const int MAX = 50;
int arr[MAX];
int size = 0;

void create() {
    cout << "Enter array size: ";
    cin >> size;
    cout << "Enter " << size << " elements: ";
    for(int i = 0; i < size; i++) cin >> arr[i];
}

void display() {
    cout << "Array: ";
    for(int i = 0; i < size; i++) cout << arr[i] << " ";
    cout << endl;
}

void insert() {
    int pos, val;
    cout << "Enter position and value to insert: ";
    cin >> pos >> val;
    for(int i = size; i > pos; i--) arr[i] = arr[i-1];
    arr[pos] = val;
    size++;
}

void del() {
    int pos;
    cout << "Enter position to delete: ";
    cin >> pos;
    for(int i = pos; i < size-1; i++) arr[i] = arr[i+1];
    size--;
}

void search() {
    int val, found = 0;
    cout << "Enter value to search: ";
    cin >> val;
    for(int i = 0; i < size; i++) {
        if(arr[i] == val) {
            cout << "Found at position " << i << endl;
            found = 1;
        }
    }
    if(!found) cout << "Not found\n";
}

int main() {
    int choice;
    while(true) {
        cout << "\n1. Create\n2. Display\n3. Insert\n4. Delete\n5. Search\n6. Exit\n";
        cout << "Enter choice: ";
        cin >> choice;

        switch(choice) {
            case 1: create(); break;
            case 2: display(); break;
            case 3: insert(); break;
            case 4: del(); break;
            case 5: search(); break;
            case 6: return 0;
            default: cout << "Invalid choice\n";
        }
    }
}
```

2.
```cpp
#include <bits/stdc++.h>

using namespace std;

int main() {
    int n;
    cout << "Enter the size of the array: ";
    cin >> n;

    int arr[100];
    cout << "Enter elements of the array: ";
    for (int i = 0; i < n; i++) {
        cin >> arr[i];
    }

    for (int i = 0; i < n; i++) {
        for (int j = i + 1; j < n; ) {
            if (arr[i] == arr[j]) {
                for (int k = j; k < n - 1; k++) {
                    arr[k] = arr[k + 1];
                }
                n--;
            } else {
                j++;
            }
        }
    }

    cout << "Array after removing duplicates: ";
    for (int i = 0; i < n; i++) {
        cout << arr[i] << " ";
    }

    return 0;
}
```

3. Output → 10000

4(1).
```cpp
#include<bits/stdc++.h>

using namespace std;
int main(){

    int n;
    cout<<"Enter size of the array: ";
    cin>>n;
    int arr[n];
    cout<<"Enter the elements of the array: ";
    for(int i=0;i<n;i++){
        cin>>arr[i];
    }
    for(int i=0;i<n/2;i++){
        int temp = arr[i];
        arr[i] = arr[n-i-1];
        arr[n-i-1] = temp;
    }
    for(int i=0;i<n;i++){
        cout<<arr[i]<<" ";
    }
}
```

4(2).

```cpp
#include<bits/stdc++.h>

using namespace std;
int main(){
    int a,b,c,d;
    cout<<"Enter rows for first matrix ";
    cin>>a;
     cout<<"Enter columns for first matrix ";
    cin>>b;
     cout<<"Enter rows for second matrix ";
    cin>>c;
     cout<<"Enter columns for second matrix ";
    cin>>d;
    int arr[a][b];
    int brr[c][d];

    cout<<"Enter first matrix: ";
    for(int i=0;i<a;i++){
        for(int j=0;j<b;j++){
            cin>>arr[i][j];
        }
    }

     cout<<"Enter second matrix: ";
    for(int i=0;i<c;i++){
        for(int j=0;j<d;j++){
            cin>>brr[i][j];
        }
    }

    int crr[a][d];

    for(int i=0;i<a;i++){
        for(int j=0;j<d;j++){
            crr[i][j] = 0;
            for(int k=0;k<b;k++){
                crr[i][j] += arr[i][k] * brr[k][j];
            }

        }
    }
       for(int i=0;i<a;i++){
        for(int j=0;j<d;j++){
            cout<<crr[i][j]<<" ";
        }
        cout<<endl;
    }

}
```

4(3).
```cpp
#include <bits/stdc++.h>

using namespace std;

int main()
{
    int a, b;
    cout << "Enter rows: ";
    cin >> a;
    cout << "Enter columns: ";
    cin >> b;
    int arr[a][b];
    for (int i = 0; i < a; i++)
    {
        for (int j = 0; j < b; j++)
        {
            cin >> arr[i][j];
        }
    }

    for (int i = 0; i < b; i++)
    {
        for (int j = 0; j < a; j++)
        {
            cout << arr[j][i] << " ";
        }
        cout << endl;
    }
}
```

5.
```cpp
#include<bits/stdc++.h>

using namespace std;
int main(){
    int a,b;
    cout<<":ENter the rows: ";
    cin>>a;
    cout<<"Enter the columns: ";
    cin>>b;
    int arr[a][b];
    for(int i=0;i<a;i++){
        for(int j=0;j<b;j++){
            cin>>arr[i][j];
        }
    }
int row_add;
    for(int i=0;i<a;i++){
         int row_add = 0;
        for(int j=0;j<b;j++){

            row_add+= arr[i][j];



        }
        cout<<"Row"<<i+1<<" = "<<row_add<<endl;
    }

    int col_add;
      for(int i=0;i<a;i++){
         int col_add = 0;
        for(int j=0;j<b;j++){

            col_add+= arr[j][i];



        }
        cout<<"Column"<<i+1<<" = "<<col_add<<endl;
```

```
  }
  }
```