Task 1:

Task01 (Creating and Printing)

Write a program to declare an array of N integers where N is user input and perform following operations:

a) Initialize an array to (55, 63, 78, 98, 10, 24, 32, 55, 20, 47) and print array without loop.

b) Take user input N times, store in array and print (use loop).

c) Access only 5th value from array

d) Change value of 3rd value to 20.

e) Print ODD VALUES stored in array.

f) Print values which are on ODD INDICES ONLY.

g) Take input from user and find whether it is present in array or not. Design function as bool searchVal(int input), that will return true/false.

h) Design a function as int greaterThanValue(int input), that will return number of values greater than input.

i) Design a function as int lessThanValue(int input), that will return number of values greater than input.

Solution:

```
#include<iostream>
using namespace std;

bool searchVal(int input);
int greaterThanValue(int inp);
int lessThanValue(int inp);

int main(){
                                    //Task A

     int array[] = {55, 63, 78, 98, 10, 24, 32, 55, 20, 47};
     cout<<array[0]<<endl;
     cout<<array[1]<<endl;
     cout<<array[2]<<endl;
     cout<<array[3]<<endl;
     cout<<array[4]<<endl;
     cout<<array[5]<<endl;
```

```
    cout<<array[6]<<endl;
    cout<<array[7]<<endl;
    cout<<array[8]<<endl;
    cout<<array[9]<<endl;

                                // Task B

    int num;
    cout<<"Enter number N: ";
    cin>>num;
    int b[num];
    for (int i =0; i<num;i++){
                        int user_value;
                        cout<<"Enter value "<<i+1<<" ";
                        cin>>user_value;
                            b[i] = user_value;
                       }
    for (int i =0; i<num;i++){
                       cout<<b[i]<<" ";
                       }

                                // Task C

    cout<<endl<<array[4]<<endl;;


                                // Task D

    array[3] = 20;

                                //Task E

                cout<<"Odd Elements in Array"<<endl;
    for (int i=0;i<sizeof(array)/sizeof(array[0]);i++){
                       if(array[i]%2!=0){

cout<<array[i]<<" ";
                       }}
    cout<<endl;

                                //Task F
                cout<<"Elements on Odd indices in Array"<<endl;

    for( int i = 1; i<sizeof(array)/sizeof(array[0]); i+=2){
                            cout<<array[i]<<" ";
                            }

                                // Task G
    int n;
           cout<<" \n Enter number to search: ";
           cin>>n;
           int x = searchVal(n);
           if(x){
                                                    cout<<"Value Found"<<endl;
```

```
                                                    }
            else
            cout<<"Value not found"<<endl;


                                                                //Task H

     int c;
            cout<<" \n Enter number: ";
            cin>>c;
            int y = greaterThanValue(c);
            cout<<"There are "<< y << " greater numbers then input"<<endl;


                                        // Task I

            cout<<" \n Enter number: ";
            cin>>c;
            int z = lessThanValue(c);
            cout<<"There are "<< z << " less numbers then input";

 cout<<endl;
 system("PAUSE");
 return 0;
}

bool searchVal(int input){
            int array[] = {55, 63, 78, 98, 10, 24, 32, 55, 20, 47};
            for(int i=0; i<sizeof(array)/sizeof(array[0]);i++){
                                    if(array[i]==input) {
                                        return true;
                                        }
                                    else
                                        return false;
                                    }
}

int greaterThanValue(int inp){
     int count=0;
     int array[] = {55, 63, 78, 98, 10, 24, 32, 55, 20, 47};
            for(int i=0; i<sizeof(array)/sizeof(array[0]);i++){
                                    if(array[i]>inp) {
                                        count++;
                                        }
                                    }
                                    return count;
                                    }

int lessThanValue(int inp){
     int count=0;
     int array[] = {55, 63, 78, 98, 10, 24, 32, 55, 20, 47};
            for(int i=0; i<sizeof(array)/sizeof(array[0]);i++){
                                    if(array[i]<inp) {
                                        count++;
```

```
            }
        }
        return count;
        }
```

Output:

```
55
63
78
98
10
24
32
55
20
47
Enter number N: 3
Enter value 1 99
Enter value 2 12
Enter value 3 34
99 12 34
10
Odd Elements in Array
55 63 55 47
Elements on Odd indices in Array
63 20 24 55 47
 Enter number to search: 55
Value Found

 Enter number: 70
There are 2 greater numbers then input

 Enter number: 54
There are 5 less numbers then input
Press any key to continue . . .
```

Task 2:

Tas02 (Merging Two Arrays)

Create two arrays arr1, arr2 of N, M integers respectively and store any values. Create third array arr3 of N + M integers which should be empty initially. Design a function **void MergeArrays (int[] arr1, int[] arr2, int[] arr3)** that will merge both arr1, arr2 and store in arr3.

Input:

8	10	20	4	22

23	999	87	51	74

Output:

8	10	20	4	22	23	999	87	51	74

Solution:

```
#include<iostream>
using namespace std;
void merge(int a[],int b[]){

            int merge_array[]={};

            for (int i = 0; i<5; i++){
                        merge_array[i] = a[i];
                        }
            for (int j = 0; j<5; j++){
                        merge_array[j+5] = b[j];
                        }
            for (int k = 0; k<10; k++){
                        cout<<merge_array[k]<< " ";
                        }
            }


int main(){
            int array1[] = {1,2,3,4,5};
            int array2[]={6,7,8,9,10};
            cout<<"Merge Array => "<<endl<<endl;
            merge(array1,array2);


 cout<<endl;
 system("PAUSE");
 return 0;
}
```

Output:

```
Merge Array =>

1 2 3 4 5 6 7 8 9 10
```