Problems from REEMA THAREJA BOOK

Arrays

1. **Write a program to read and display n numbers using an array**

#include <iostream>

using namespace std;

int main()

{

    int n ;

    cout<<"Enter size of Array = ";

    cin >> n;

    int arr[n];

    for (int i = 0 ;i<n ;i++)

    {

        cout<<"arr["<<i<<"] = ";

        cin>>arr[i];

    }

    for (int i = 0 ;i<n ;i++)

    {

        cout<<"arr["<<i<<"] = "<<arr[i]<<endl;

      }

    }

**2. Write a program to read and display n random numbers using an array**

#include <iostream>

using namespace std;

#define  max 10;

int main()

{

    int n ;

    cout<<"Enter size of Array = ";

    cin >> n;

    int arr[n];

    for (int i = 0 ;i<n ;i++)

    {

       arr[i]=rand()%10;

*// scale random number in the range 0 to max-1;*

    }

    for (int i = 0 ;i<n ;i++)

    {

        cout<<"arr["<<i<<"] = "<<arr[i]<<endl;

}

}

**3. Largest number in array**

#include <iostream>

using **namespace** std;

**int** main()

{

**int** n;

    cout << "Enter size of Array = ";

    cin >> n;

**int** arr[n];

    for (**int** i = 0; i < n; i++)

    {

        cin >> arr[i];

    }

**int** max = arr[0];

**int** maxIndex = 0;

    for (**int** i = 0; i < n; i++)

    {

        if (arr[i] > max)

        {

            max = arr[i];

            maxIndex = i;

        }

    }

    cout << max << " is maximum number and is present at " << maxIndex << " index" << endl;

}

**4. Write a program to interchange largest and smallest number in the array**

#include <iostream>

using namespace std;

int main()

{

    int n;

    cout << "Enter size of Array = ";

    cin >> n;

    int arr[n];

    for (int i = 0; i < n; i++)

    {

        cin >> arr[i];

    }

    int max = arr[0];

    int maxIndex = 0;

    int min = arr[0];

    int minIndex = 0;

    for (int i = 0; i < n; i++)

    {

        if (arr[i] > max)

        {

            max = arr[i];

            maxIndex = i;

        }

        if (arr[i] < min)

        {

            min = arr[i];

            minIndex = i;

        }

    }

    int temp = arr[minIndex];

    arr[minIndex] = arr[maxIndex];

    arr[maxIndex] = temp;

    for (int i = 0; i < n; i++)

    {

        cout << arr[i] << " ";

    }

}

**5. Write a program to find the second largest number using array of n numbers.**

#include <iostream>

using **namespace** std;

**int** main()

{

**int** n;

    cout << "Enter size of Array = ";

    cin >> n;

**int** arr[n];

    for (**int** i = 0; i < n; i++)

    {

        cin >> arr[i];

    }

**int** max = arr[0];

**int** secondMax = arr[0];

    for (**int** i = 0; i < n; i++)

    {

        if (arr[i] > max)

            max = arr[i];

    }

    for (**int** i = 0; i < n; i++)

    {

        if (arr[i] > secondMax && max != arr[i])

        {

            secondMax = arr[i];

        }

    }

    cout << "max is " << max << endl;

    cout << "second max is " << secondMax << endl;

}

**6. Write a program to enter n number of digits and then form a number using these digits.**

#include <iostream>

#include <math.h>

using **namespace** std;

**int** main()

{

**int** n;

    cout << "Enter size of Array = ";

    cin >> n;

**int** arr[n];

    for (**int** i = 0; i < n; i++)

    {

        cin >> arr[i];

    }

**int** i = 0

**int** num = 0;

    while (i < n)

    {

        num = num \* 10 + arr[i];

        i++;

    }

    cout << num << endl;

}