Practical no: 2

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Subject: DAA Lab

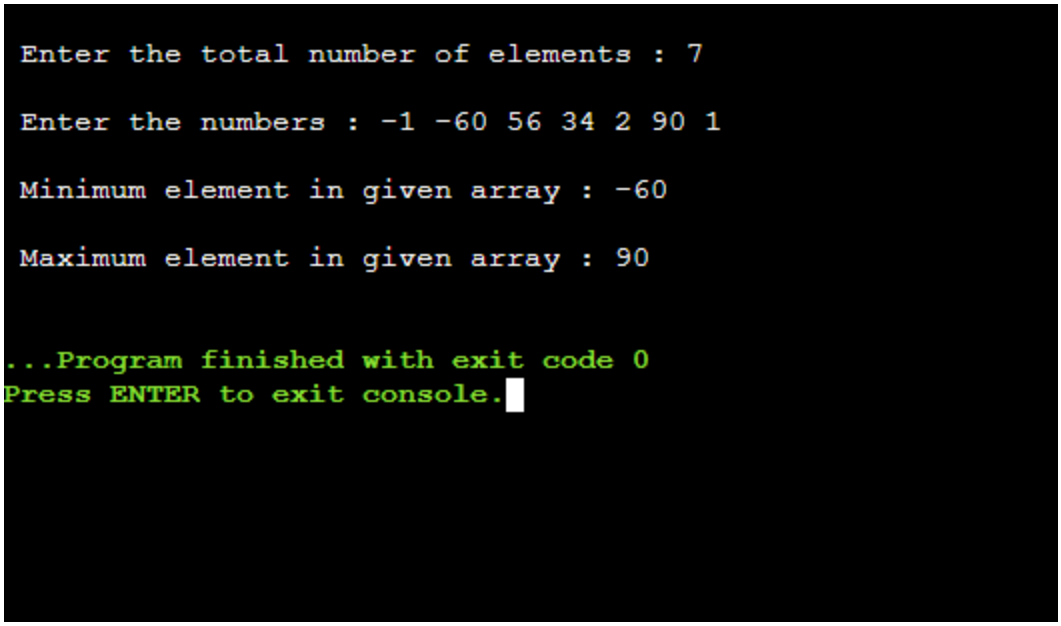
Aim: To find the minimum and maximum number of given array using Min-Max algorithm based on Divide and Conquer Strategy.

Min-Max Algorithm (Code and Output):

```
#include<stdio.h>
int max, min;
int a[100];
void minmax(int i, int j)
{
   int max1, min1, mid;
   if(i==j)
   {
      max = min = a[i];
   }
   else
   {
      if(i == j-1)
      {
         if(a[i] <a[j])
         {
            max = a[j];
            min = a[i];
         }
         else
         {
            max = a[i];
            min = a[j];
         }
      }
```

```
        else
        {
            mid = (i+j)/2;
            minmax(i, mid);
            max1 = max;
            min1 = min;
            minmax(mid+1, j);
            if(max <max1)
            max = max1;
            if(min > min1)
                min = min1;
        }
    }
}

int main ()
{
    int i, num;
    printf ("\n Enter the total number of elements : ");
    scanf ("%d",&num);
    printf ("\n Enter the numbers : ");
    for (i=1;i<=num;i++)
        scanf ("%d",&a[i]);
    max = a[0];
    min = a[0];
    minmax(1, num);
    printf ("\n Minimum element in given array : %d\n", min);
    printf ("\n Maximum element in given array : %d\n", max);
    return 0;
}
```



Conclusion: We have successfully studied and implemented Min-Max algorithm based on Divide and Conquer strategy using recursion in C.