**Array and Functions in C Language**

**Assignment – 15**

**1. Write a function to find the greatest number from the given array of any size. (TSRS)**

**#include<stdio.h>**

**int gr(int [],int);**

**int main()**

**{**

**int s;**

**printf("ENTER SIZE OF ARRAY=");**

**scanf("%d",&s);**

**int a[s];**

**printf("ENTER %d ELEMENTS=\n",s);**

**for(int i=0;i<s;i++)**

**{**

**scanf("%d",&a[i]);**

**}**

**printf("GREATEST NO IS=%d",gr(a,s));**

**return 0;**

**}**

**int gr(int a[],int s)**

**{**

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

**for(int i=0;i<s;i++)**

**{**

**if(a[i]>max)**

**{**

**max=a[i];**

**}**

**}**

**return max;**

**}**

**2. Write a function to find the smallest number from the given array of any size. (TSRS)**

**#include<stdio.h>**

**int gr(int [],int);**

**int main()**

**{**

**int s;**

**printf("ENTER SIZE OF ARRAY=");**

**scanf("%d",&s);**

**int a[s];**

**printf("ENTER %d ELEMENTS=\n",s);**

**for(int i=0;i<s;i++)**

**{**

**scanf("%d",&a[i]);**

**}**

**printf("SMALLEST NO IS=%d",gr(a,s));**

**return 0;**

**}**

**int gr(int a[],int s)**

**{**

**int min=a[0];**

**for(int i=0;i<s;i++)**

**{**

**if(a[i]<min)**

**{**

**min=a[i];**

**}**

**}**

**return min;**

**}**

**3. Write a function to sort an array of any size. (TSRS)**

**#include<stdio.h>**

**void srt(int[],int);**

**int main()**

**{**

**int s,i;**

**printf("ENTER SIZE OF ARRAY=");**

**scanf("%d",&s);**

**int a[s];**

**printf("ENTER %d ELEMENTS=\n",s);**

**for(int i=0;i<s;i++)**

**{**

**scanf("%d",&a[i]);**

**}**

**srt(a,s);**

**return 0;**

**}**

**void srt(int a[],int s)**

**{**

**int temp,i,j;**

**for(i=0;i<s;i++)**

**{**

**for(j=i+1;j<s;j++)**

**{**

**if(a[i]>a[j])**

**{**

**temp=a[i];**

**a[i]=a[j];**

**a[j]=temp;**

**}**

**}**

**}**

**for (int i=0;i<s;i++)**

**printf("%d ",a[i]);**

**}**

**5. Write a function to find the first occurrence of adjacent duplicate values in the array.**

**Function has to return the value of the element.**

**#include<stdio.h>**

**void dup(int[],int);**

**int main()**

**{**

**int s,i;**

**printf("ENTER SIZE OF ARRAY=");**

**scanf("%d",&s);**

**int a[s];**

**printf("ENTER %d ELEMENTS=\n",s);**

**for(int i=0;i<s;i++)**

**{**

**scanf("%d",&a[i]);**

**}**

**dup(a,s);**

**return 0;**

**}**

**void dup(int a[],int s)**

**{**

**int flag=0,i,j;**

**for(i=0;i<s;i++)**

**{**

**if(a[i]==a[i+1])**

**{**

**flag=1;**

**}**

**}**

**if(flag==1)**

**printf("ADJACENT OCCURANCE FOUND");**

**else**

**printf("ADJACENT OCCURANCE NOT FOUND");**

**}**

**6. Write a function in C to read n number of values in an array and display it in reverse order.**

**#include<stdio.h>**

**void rev(int[],int);**

**int main()**

**{**

**int s,i;**

**printf("ENTER SIZE OF ARRAY=");**

**scanf("%d",&s);**

**int a[s];**

**printf("ENTER %d ELEMENTS=\n",s);**

**for(int i=0;i<s;i++)**

**{**

**scanf("%d",&a[i]);**

**}**

**rev(a,s);**

**return 0;**

**}**

**void rev(int a[],int s)**

**{**

**printf("ARRAY IN REVERSE ORDER=");**

**for(int i=s;i>=0;i--)**

**printf("%d ",a[i]);**

**}**

**7. Write a function in C to count a total number of duplicate elements in an array.**

**#include<stdio.h>**

**void occcount(int[],int);**

**int main()**

**{**

**int s,i;**

**printf("ENTER SIZE OF ARRAY=");**

**scanf("%d",&s);**

**int a[s];**

**printf("ENTER %d ELEMENTS=\n",s);**

**for(int i=0;i<s;i++)**

**{**

**scanf("%d",&a[i]);**

**}**

**printf("TOTAL NO OF DUPLICATE ELEMENT ARE=");**

**occcount(a,s);**

**return 0;**

**}**

**void occcount(int a[],int s)**

**{**

**int count=0,i,j;**

**for(i=0;i<s;i++)**

**{**

**for(j=i+1;j<=s;j++)**

**{**

**if(a[i]==a[j])**

**{**

**count++;**

**}**

**}**

**if(count==1)**

**printf("%d ",count);**

**count=0;**

**}**

**}**

**8. Write a function in C to print all unique elements in an array.**

**#include<stdio.h>**

**void uniq(int[],int);**

**int main()**

**{**

**int s,i;**

**printf("ENTER SIZE OF ARRAY=");**

**scanf("%d",&s);**

**int a[s];**

**printf("ENTER %d ELEMENTS=\n",s);**

**for(int i=0;i<s;i++)**

**{**

**scanf("%d",&a[i]);**

**}**

**printf("UNIQUE ELEMENT ARE=");**

**uniq(a,s);**

**return 0;**

**}**

**void uniq(int a[],int s)**

**{**

**int count=0,i,j;**

**for(i=0;i<s;i++)**

**{**

**for(j=0;j<s;j++)**

**{**

**if(a[i]==a[j])**

**{**

**count++;**

**}**

**}**

**if(count==1)**

**printf("%d ",a[i]);**

**count=0;**

**}**

**}**

**9. Write a function in C to merge two arrays of the same size sorted in descending order.**

**#include<stdio.h>**

**void dec(int [],int);**

**int main()**

**{**

**int i,j,n;**

**printf("ENTER SIZE OF ARRAY=");**

**scanf("%d",&n);**

**int a1[n];**

**printf("ENTER %d ELEMENTS OF ARRAY 1=\n",n);**

**for( i=0;i<n;i++)**

**{**

**scanf("%d ",&a1[i]);**

**}**

**int a2[n];**

**printf("\n ENTER %d ELEMENTS OF ARRAY 2=\n",n);**

**for( i=0;i<n;i++)**

**{**

**scanf("%d ",&a2[i]);**

**}**

**int c[n+n];**

**for( i=0;i<n;i++)**

**{**

**c[i]=a1[i];**

**}**

**for(i=n;i<n+n;i++)**

**{**

**c[i]=a2[i-n];**

**}**

**printf("\nNEW ARRAY ELEMENTS ARE=");**

**for(i=0;i<n+n;i++)**

**{**

**printf("%d ",c[i]);**

**}**

**dec(c,n);**

**return 0;**

**}**

**void dec(int c[],int n)**

**{**

**int i,j,temp=0;**

**for(i=0;i<n+n;i++)**

**{**

**for(j=i+1;j<n+n;j++)**

**{**

**if(c[i]>c[j])**

**{**

**temp=c[i];**

**c[i]=c[j];**

**c[j]=temp;**

**}**

**}**

**}**

**printf("\nARRAY AFTER DESCENDING ARE=");**

**for(i=n+n-1;i>=0;i--)**

**printf("%d ",c[i]);**

**}**