# C Programming

Exercise

1. void main()

int age[5] = (30,25,45,35,60};

Double a[5] = (3.67, 1.21,5.87, 7.45, 9.12};

printf(“%d”,age[0];)

printf(“%1f”,a[2]);

**Answer:-**

**#include<stdio.h>**

**void main()**

**{**

**int age[5] = {30,25,45,35,60};**

**double a[5] = {3.67, 1.21,5.87, 7.45, 9.12};**

**printf("%d",age[0]);**

**printf("%1f",a[2]);**

**}**

**Output:** **305.870000**

1. void main()

int a[5] = (4,3,6,5,1,2};

printf(“%d” ,a[2]);

**Answer:**

**void main( )**

**{**

**int a[5] = {4,3,6,5,1,2};**

**printf(“%d” ,a[2]);**

**}**

**Output:6**

3.void main()

int a[0] = (10};

printf( %d” ,a[0]);

**Answer:**

void main()

int a[0] = {10};

printf( %d” ,a[0]);

**Output:1056615 //garbage value because…….**

1. void main()

float arr[N] = (2, 4, 1, 5, 6, 9, 8, 3, 10, 7};

int i=1, j=3, k=2; printf(“%d ”, arr[0]);

printf(“%d ”, arr[3]);

printf( %d ”, arr[9]);

printf(“%d ”, arr[i\*j+k]);

printf("%d ”, arr[N-5]);

printf( %d ”, arr[N-1]);

**Answer:**

#include<stdio.h>

#define N 9

void main()

{

float arr[N] = {2, 4, 1, 5, 6, 9, 8, 3, 10, 7};

int i=1, j=3, k=2;

printf("%d ", arr[0]);

printf("%d ", arr[3]);

printf("%d ", arr[9]);

printf("%d ", arr[i\*j+k]);

printf("%d ", arr[N-5]);

printf("%d ", arr[N-1]);

}

**Output:**

**0 0 0 0 0 0**

1. void main()

int a[3] = (5, 4, 7};

int b[3];

b = a; /\* Wrong \*/

printf( %d %d %d” , a[0],a[1],a[2]);

printf( %d %d %d” , b[0],b[1],b[2]);

**Answer:**

void main()

{

int a[3] = {5, 4, 7};

int b[3];

b[3]= a[3]; /\* Wrong \*/

printf( "%d %d %d\n" , a[0],a[1],a[2]);

printf( "%d %d %d" , b[0],b[1],b[2]);

}

**Output:**

5 4 7

0 0 65 //garbage Value

1. Write a program to find total and average of n given numbers and find the numbers which are greater than the average.

**#include<stdio.h>**

**void main()**

**{**

**int arr[100],i,j,k,n,sum=0;**

**printf("Enter size of Number Input:");**

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

**printf("\nEnter Array Elements:\n");**

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

**{**

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

**}**

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

**{**

**sum=sum+arr[j];**

**}**

**printf("\nSum of Numbers is:%d",sum);**

**printf("\nAverage of Numbers is:%d",sum/n);**

**printf("\nNumbers which are greater than the average is:\n");**

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

**{**

**if((sum/n)<arr[k])**

**{**

**printf("%d\n",arr[k]);**

**}**

**}**

**}**

1. Write a program to find maximum and minimum in the given list of n numbers.

**#include<stdio.h>**

**void main()**

**{**

**int arr[100],i,j,k,n,sum=0,temp,index;**

**printf("Enter size of Number Input:");**

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

**index=n;**

**printf("\nEnter Array Elements:\n");**

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

**{**

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

**}**

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

**{**

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

**{**

**if(arr[j]>arr[k])**

**{**

**temp=arr[j];**

**arr[j]=arr[k];**

**arr[k]=temp;**

**}**

**}**

**}**

**printf("Greatest Number is:%d",arr[n-1]);**

**printf("\nSmallest Number is:%d",arr[0]);**

**}**

1. Write a program to find the count of positive numbers, negative numbers and zeros in the given list of n numbers.

**#include<stdio.h>**

**void main()**

**{**

**int arr[100],i,j,k,n,sum=0,countp,countn,countz;**

**printf("Enter size of Number Input:");**

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

**printf("\nEnter Array Elements:\n");**

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

**{**

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

**}**

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

**{**

**if(arr[k]>0)**

**{**

**countp++;**

**}**

**if(arr[k]<0)**

**{**

**countn++;**

**}**

**if(arr[k]==0)**

**{**

**countz++;**

**}**

**}**

**printf("Total Number of Positive Number is:%d\n",countp);**

**printf("Total Number of Negative Number is:%d\n",countn);**

**printf("Total Number of Zero Number is:%d",countz);**

**}**

1. Write a program to find the sum of positive numbers and negative numbers in the given list of n numbers.

**#include<stdio.h>**

**void main()**

**{**

**int arr[100],i,k,n,sum=0,sump,sumn,sumz;**

**printf("Enter size of Number Input:");**

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

**printf("\nEnter Array Elements:\n");**

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

**{**

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

**}**

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

**{**

**if(arr[k]>0)**

**{**

**sump=sump+arr[k];**

**}**

**if(arr[k]<0)**

**{**

**sumn=sumn+arr[k];**

**}**

**if(arr[k]==0)**

**{**

**sumz=sumz+arr[k];**

**}**

**}**

**printf("Sum of Positive Number is:%d\n",sump);**

**printf("Sum of Negative Number is:%d\n",sumn);**

**printf("Sum of Zero Number is:%d",sumz);**

**}**

1. Write a program to find the sum and count of even and odd numbers in the given list of n number.

**#include<stdio.h>**

**void main()**

**{**

**int arr[100],i,k,n,sume=0,sumo=0,counto=0,counte=0;**

**printf("Enter size of Number Input:");**

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

**printf("\nEnter Array Elements:\n");**

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

**{**

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

**}**

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

**{**

**if(arr[k]%2==0)**

**{**

**sume=sume+arr[k];**

**counte++;**

**}**

**if(arr[k]%2!=0)**

**{**

**sumo=sumo+arr[k];**

**counto++;**

**}**

**}**

**printf("Sum of Even Number is:%d\n",sume);**

**printf("Sum of Odd Number is:%d\n",sumo);**

**printf("Total Number of Even Number is:%d\n",counte);**

**printf("Total Number of Odd Number is:%d\n",counto);**

**}**

1. Write a program to search an element in the given list of n numbers using linear search.

**#include<stdio.h>**

**void main()**

**{**

**int arr[100],i,j,n,search,count=0;**

**printf("Enter size of Number Input:");**

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

**printf("\nEnter Array Elements:\n");**

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

**{**

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

**}**

**printf("Enter Number for serching:");**

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

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

**{**

**if(search!=arr[j])**

**count++;**

**}**

**if(count==10)**

**printf("Not found\n");**

**if(count!=10)**

**printf("Found");**

**}**

1. Write a program to delete an element from the array of n elements at the specified position.

**#include<stdio.h>**

**void main()**

**{**

**int arr[100],i,j,n,index;**

**printf("Enter size of Number Input:");**

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

**printf("\nEnter Array Elements:\n");**

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

**{**

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

**}**

**printf("Enter Index Number for Deleteing Number:");**

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

**arr[index]=0;**

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

**{**

**printf("%d",arr[j]);**

**}**

**}**

1. Write a program to find the sum of all elements in the given matrix of order m *x* n.

**#include<stdio.h>**

**void main()**

**{**

**int i,j,sum=0,k,l,arr[3][3];**

**for(i=0;i<3;i++)**

**{**

**printf("Enter %d row values:\n",i);**

**for(j=0;j<3;j++)**

**{**

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

**}**

**}**

**printf("Sum of All Numbers is:\n");**

**for(k=0;k<3;k++)**

**{**

**for(l=0;l<3;l++)**

**{**

**sum=sum+arr[k][l];**

**}**

**}**

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

**}**

1. Write a program to find sum of square of elements in a given matrix.

**#include<stdio.h>**

**void main()**

**{**

**int i,j,sum=0,k,l,arr[3][3];**

**for(i=0;i<3;i++)**

**{**

**printf("Enter %d row values:\n",i);**

**for(j=0;j<3;j++)**

**{**

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

**}**

**}**

**printf("Sum of square of elements is:\n");**

**for(k=0;k<3;k++)**

**{**

**for(l=0;l<3;l++)**

**{**

**sum=sum+(arr[k][l]\*arr[k][l]);**

**}**

**}**

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

**}**

1. Write a program to find subtraction of two given matrices.

**//Write a program to find subtraction of two given matrices.**

**#include<stdio.h>**

**void main()**

**{**

**int i,j,sum=0,k,l,arr1[3][3],arr2[3][3],arr3[3][3];**

**printf("Enter 1st Matrix Value:\n");**

**for(i=0;i<3;i++)**

**{**

**printf("Enter %d row values:\n",i);**

**for(j=0;j<3;j++)**

**{**

**scanf("%d",&arr1[i][j]);**

**}**

**}**

**printf("Enter 2nd Matrix Value:\n");**

**for(i=0;i<3;i++)**

**{**

**printf("Enter %d row values:\n",i);**

**for(j=0;j<3;j++)**

**{**

**scanf("%d",&arr2[i][j]);**

**}**

**}**

**printf("subtraction of two given matrices:\n");**

**for(k=0;k<3;k++)**

**{**

**for(l=0;l<3;l++)**

**{**

**arr3[k][l]=(arr1[k][l]-arr2[k][l]);**

**}**

**}**

**for(k=0;k<3;k++)**

**{**

**for(l=0;l<3;l++)**

**{**

**printf("%d ",arr3[k][l]);**

**}**

**printf("\n");**

**}**

**}**

12.Write a program to find transpose of a given matrix.