

-----**ARRAY PROGRAM**-----

//WAP to find sum of all elements in array

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, sum=0;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d",&a[i]);
    }
    //output array
    printf("The array elements are:\n");
    for(i=0;i<size;i++){
        printf("%d\t",a[i]);
    }
    //finding sum of array
    for(i=0;i<size;i++){
        sum=sum+a[i];
    }
    printf("\nThe sum of array elements is:%d", sum);
    getch();
    return 0;
}
```

//WAP to find average of array elements

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, sum=0;
    float Avg;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d",&a[i]);
    }
}
```

```
//output array
printf("The array elements are:\n");
for(i=0;i<size;i++){
    printf("%d\t",a[i]);
}
//finding sum of array
for(i=0;i<size;i++){
    sum=sum+a[i];
}
//calculating average
Avg=(float)sum/size;
printf("\nThe Average of array elements is:%f", Avg);
getch();
return 0;
}
```

//WAP to print the elements of an array present on even position

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100], size, i;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d",&a[i]);
    }
    //output array
    printf("The array elements are:\n");
    for(i=0;i<size;i++){
        if(i%2==0){
            printf("%d\t",a[i]);
        }
    }
    getch();
    return 0;
}
```

//WAP to print the elements of an array present on odd position

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100], size, i;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d",&a[i]);
    }
    //output array
    printf("The array elements are:\n");
    for(i=0;i<size;i++){
        if(i%2!=0){
            printf("%d\t",a[i]);

        }
    }
    getch();
    return 0;
}
```

//WAP to find maxium number in an array.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, Max;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d",&a[i]);
    }
    //output array
    printf("The array elements are:\n");
    for(i=0;i<size;i++){
        printf("%d\t",a[i]);
    }
}
```

```
//finding maximum element of array
Max=a[0];
for(i=0;i<size;i++){
    if(a[i]>Max){
        Max=a[i];
    }
}
printf("\nThe Maximum element of array is:%d", Max);
getch();
return 0;
}
```

//WAP to find minimum number in an array.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, Min;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d",&a[i]);
    }
    //output array
    printf("The array elements are:\n");
    for(i=0;i<size;i++){
        printf("%d\t",a[i]);
    }
    //finding minimum element of array
    Min=a[0];
    for(i=0;i<size;i++){
        if(a[i]<Min){
            Min=a[i];
        }
    }
    printf("\nThe Minimum element of array is:%d", Min);
    getch();
    return 0;
}
```

//WAP to find maxium and minimum number in an array.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, Max, Min;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d",&a[i]);
    }
    //output array
    printf("The array elements are:\n");
    for(i=0;i<size;i++){
        printf("%d\t",a[i]);
    }
    //finding maximum and minimum element of array
    Max=a[0];
    Min=a[0];
    for(i=0;i<size;i++){
        if(a[i]>Max){
            Max=a[i];
        }
        else if(a[i]<Min){
            Min=a[i];
        }
    }
    printf("\nThe Maximum element of array  is:%d", Max);
    printf("\nThe Minimum element of array  is:%d", Min);
    getch();
    return 0;
}
```

// WAP to find sum of all odd numbers in array.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, sum=0;
    printf("Enter the size of array:");
```

```
scanf("%d",&size);
//input array
for(i=0;i<size;i++){
    printf("Enter a[%d] element:",i);
    scanf("%d",&a[i]);
}
//output array
printf("The array elements are:\n");
for(i=0;i<size;i++){
    printf("%d\t",a[i]);
}
//finding sum of odd element of array
for(i=0;i<size;i++){
    if(a[i]%2!=0){
        sum=sum+a[i];
    }
}
printf("\nThe sum of odd element of array is:%d", sum);
getch();
return 0;
}
```

// WAP to find sum of all even numbers in array.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, sum=0;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d",&a[i]);
    }
    //output array
    printf("The array elements are:\n");
    for(i=0;i<size;i++){
        printf("%d\t",a[i]);
    }
}
```

```
//finding sum of even element of array
for(i=0;i<size;i++){
    if(a[i]%2==0){
        sum=sum+a[i];
    }
}
printf("\nThe sum of even element of array is:%d", sum);
getch();
return 0;
}
```

// WAP to find sum of all odd and even numbers in array.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, osum=0, esum=0;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d",&a[i]);
    }
    //output array
    printf("The array elements are:\n");
    for(i=0;i<size;i++){
        printf("%d\t",a[i]);
    }
    //finding sum of odd and even element of array
    for(i=0;i<size;i++){
        if(a[i]%2==0){
            esum=esum+a[i];
        }
        else{
            osum=osum+a[i];
        }
    }
    printf("\nThe sum of odd element of array is:%d", osum);
    printf("\nThe sum of even element of array is:%d", esum);
    getch();
    return 0;
}
```

// WAP to display array in reverse order.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, osum=0, esum=0;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d",&a[i]);
    }
    //output array in reverse order
    printf("The array elements are:\n");
    for(i=size-1;i>=0;i--){
        printf("%d\t", a[i]);
    }
    getch();
    return 0;
}
```

// WAP to copy one array to another.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, b[100];
    printf("Enter the size of array:");
    scanf("%d", &size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d", &a[i]);
    }
    //output array a
    printf("The array elements of first array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", a[i]);
    }
}
```



```
//copying to another array b
for(i=0;i<size;i++){
    b[i]=a[i];
}
//output array b
printf("\nThe array elements second array are:\n");
for(i=0;i<size;i++){
    printf("%d\t", b[i]);
}
getch();
return 0;
}
```

// WAP to copy one array to another in reverse order.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, b[100];
    printf("Enter the size of array:");
    scanf("%d", &size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d", &a[i]);
    }
    //output array a
    printf("The array elements of first array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", a[i]);
    }
    //copying to another array b in reverse order
    for(i=size-1;i>=0;i--){
        b[(size-1)-i]=a[i];
    }
    //output array b
    printf("\nThe array elements second array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", b[i]);
    }
    getch();
    return 0;
}
```

// WAP to ADD two array.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, b[100],c[100];
    printf("Enter the size of array:");
    scanf("%d", &size);
    //input first array
    printf("\nEnter first array elements:\n");
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d", &a[i]);
    }
    //input Second array
    printf("\nEnter Second array elements:\n");
    for(i=0;i<size;i++){
        printf("Enter b[%d] element:",i);
        scanf("%d", &b[i]);
    }
    //output First array a
    printf("\nThe array elements of first array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", a[i]);
    }
    //output Second array b
    printf("\nThe array elements of Second array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", b[i]);
    }
    //Adding arrays a and b
    for(i=0;i<size;i++){
        c[i]=b[i]+a[i];
    }
    //output added array c
    printf("\nThe array elements of added array array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", c[i]);
    }
    getch();
    return 0;
}
```

// WAP to SUB two array.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, b[100],c[100];
    printf("Enter the size of array:");
    scanf("%d", &size);
    //input first array
    printf("\nEnter first array elements:\n");
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d", &a[i]);
    }
    //input Second array
    printf("\nEnter Second array elements:\n");
    for(i=0;i<size;i++){
        printf("Enter b[%d] element:",i);
        scanf("%d", &b[i]);
    }
    //output First array a
    printf("\nThe array elements of first array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", a[i]);
    }
    //output Second array b
    printf("\nThe array elements of Second array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", b[i]);
    }
    //Subtracting arrays a and b
    for(i=0;i<size;i++){
        c[i]=a[i]-b[i];
    }
    //output subtracted array c
    printf("\nThe array elements of added array array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", c[i]);
    }
    getch();
    return 0;
}
```

// WAP to MUL two array.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, i, b[100],c[100];
    printf("Enter the size of array:");
    scanf("%d", &size);
    //input first array
    printf("\nEnter first array elements:\n");
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d", &a[i]);
    }
    //input Second array
    printf("\nEnter Second array elements:\n");
    for(i=0;i<size;i++){
        printf("Enter b[%d] element:",i);
        scanf("%d", &b[i]);
    }
    //output First array a
    printf("\nThe array elements of first array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", a[i]);
    }
    //output Second array b
    printf("\nThe array elements of Second array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", b[i]);
    }
    //Multiplying arrays a and b
    for(i=0;i<size;i++){
        c[i]=a[i]*b[i];
    }
    //output Multiplied array c
    printf("\nThe array elements of added array array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", c[i]);
    }
    getch();
    return 0;
}
```

//WAP to Count Number of prime numbers in an array.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100],size, count=0, j,i,factor;
    printf("Enter the size of array:");
    scanf("%d", &size);
    //input array
    printf("\nEnter first array elements:\n");
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d", &a[i]);
    }

    //output array
    printf("\nThe array elements of first array are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", a[i]);
    }

    for(i=0;i<n; i++){
        factor=0;
        for(j=1; j<=a[i]; j++){
            if(a[i]%j==0){
                factor++;
            }
        }
        if(factor==2){
            count++;
        }
    }
    printf("\nThe Number of Prime Number is %d ", count);
    getch();
    return 0;
}
```

WAP to sort array in ascending order.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100], size, i, j, temp;
    printf("Enter the size of array:");
    scanf("%d",&size);
```

```
//input array
for(i=0;i<size;i++){
    printf("Enter a[%d] element:",i);
    scanf("%d", &a[i]);
}

//output array
printf("The array elements are:\n");
for(i=0;i<size;i++){
    printf("%d\t", a[i]);
}

//sorting the array
for(i=0;i<size; i++){
    for(j=i+1; j<size; j++){
        if(a[i]>a[j]){
            temp=a[i];
            a[i]=a[j];
            a[j]=temp;
        }
    }
}

//output sorted array
printf("The sorted array elements are:\n");
for(i=0;i<size;i++){
    printf("%d\t", a[i]);
}

getch();
return 0;
}
```

WAP to find frequency of given character in an array.

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100], size, i, freq=0, num;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d", &a[i]);
    }
}
```

```
    }
    //output array
    printf("The array elements are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", a[i]);
    }
    printf("\nEnter the number whose frequency is to be found:");
    scanf("%d", &num);
    for(i=0;i<size;i++){
        if(a[i]==num){
            freq++;
        }
    }
    if(freq==0){
        printf("\nNumber not found in an array");
    }else{
        printf("\nThe frequency is:%d", freq);
    }
}

getch();
return 0;
}
```

WAP to check whether given number is present in an array or not and also find its position (should work for repeated values also).

```
#include<stdio.h>
#include<conio.h>
int main(){
    int a[100], pos[100], size, i, j=0, flag=0, num;
    printf("Enter the size of array:");
    scanf("%d",&size);
    //input array
    for(i=0;i<size;i++){
        printf("Enter a[%d] element:",i);
        scanf("%d", &a[i]);
    }
    //output array
    printf("The array elements are:\n");
    for(i=0;i<size;i++){
        printf("%d\t", a[i]);
    }
    printf("\nEnter the number to be found:");
    scanf("%d", &num);
```

```
    for(i=0;i<size;i++){
        if(a[i]==num){
            flag=1;
            pos[j]=i;
            j++;
        }
    }
    if(flag==0){
        printf("\nNumber not found in an array");
    }else{
        printf("\nThe number %d is found at index:",num);
        for(i=0;i<j;i++){
            printf("%d ", pos[i]);
        }
    }

    getch();
    return 0;
}
```