

## PPS Programs

```
#include<stdio.h>
int main()
{
    int a;
    a=077;
    printf("a=%d", a);
    printf("a=%o", a);
    printf("a=%x", a);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int a;
    a=0xF;
    printf("a=%d", a);
    printf("a=%o", a);
    printf("a=%x", a);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    float a;
    a=3e-5;
    printf("a=%f", a);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    char c='#';
    printf("The character is %c", c);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    char c;
```

```
printf("Enter the character: ");
scanf("%c",&c);
printf("The character is %c\n", c);
printf("The ASCII value of the character is %d", c);
return 0;
}
```

```
#include<stdio.h>
int main()
{
    char c=97;
    printf("The character is %c\n", c);
    printf("The ASCII value of the character is %d", c);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    char c[20]="Welcome";
    printf("The string is %s\n", c);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    char c[20]="Welcome";
    printf("Enter the string: ");
    scanf("%[^\\n]s",c);
    printf("The string is %s\n", c);
    return 0;
}
```

```
#include<stdio.h>
#define MAX 100
int main()
{
    printf("Max=%d",MAX);
    return 0;
}
```

```
#include<stdio.h>
#define MAX 100
int main()
```

```
{
    int a=MAX + 20;

    printf("Max=%d",a);
    return 0;
}
```

```
#include<stdio.h>
#define MAX 100
int main()
{
    int q=MAX / 20;
    int r=MAX % 20;

    printf("Q=%d",q);
    printf("\nR=%d",r);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int a,b;
    printf("Enter the values: ");
    scanf("%d%d",&a,&b);

    int q=a / b;
    int r=a % b;

    printf("Q=%d",q);
    printf("\nR=%d",r);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int a,b;
    float c;
    a=10;
    b=21;
    c=(a+b)/2;
    printf("c=%f",c);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int a,b;
    float c;
    a=10;
    b=21;
    c=(a+b)/2.0;
    printf("c=%f",c);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int a,b,c;
    a=10;
    b=21;
    c=a>b;
    printf("c=%d",c);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int a,b,c;
    a=10;
    b=10;
    c=a==b;
    printf("c=%d",c);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int a,b,c;
    a=10;
    b=20;
    c=(a<b)&&(a<15);
    printf("c=%d",c);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int a,b,c;
    a=10;
    b=20;
    a+=10; //a=a+10;
    b*=a; //b=b*a;
    printf("a=%d",a);
    printf("\nb=%d",b);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int a,b,c;
    a=b=c=10;
    printf("a=%d",a);
    printf("\nb=%d",b);
    printf("\nc=%d",c);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int a,b,c=2;
    a=b=c+=10;
    printf("a=%d",a);
    printf("\nb=%d",b);
    printf("\nc=%d",c);
    return 0;
}
```

```
a=12
b=12
c=12
```

```
#include<stdio.h>
int main()
{
    int a,b=3,c=2;
    a=b+=c+=10;
    printf("a=%d",a);
    printf("\nb=%d",b);
}
```

```

    printf("\nc=%d",c);
    return 0;
}
a=15
b=15
c=12

```

```

#include<stdio.h>
int main()
{
    int a=7,b=3,c=2;
    a+=b+=c+=10;
    printf("a=%d",a);
    printf("\nb=%d",b);
    printf("\nc=%d",c);
    return 0;
}

```

```

a=22
b=15
c=12
#include<stdio.h>
int main()
{
    int a=10;
    a++; //a=a+1;
    printf("a=%d",a);
    ++a; //a=a+1
    printf("\na=%d",a);
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int a=10,b,c;
    b=a++; //b=a;a=a+1;
    c=++a; //a=a+1;c=a;
    printf("a=%d",a);
    printf("\nb=%d",b);
    printf("\nc=%d",c);
    return 0;
}

```

```

#include<stdio.h>
int main()
{

```

```

int a=10,b,c;
b=a++ + 5; //b=a + 5; a=a+1;
c=++a + 5; //a=a+1;c=a + 5;
printf("a=%d",a);
printf("\nb=%d",b);
printf("\nc=%d",c);
return 0;
}

```

```

#include<stdio.h>
int main()
{
    int a=10,b,c;
    b=--a + 5; //a=a-1=9; b=9+5=14
    c=5 + a--; //c=5+a=5+9=14; a=a-1=8
    printf("a=%d",a);
    printf("\nb=%d",b);
    printf("\nc=%d",c);
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int a,b,c;
    printf("Enter the values ");
    scanf("%d%d",&a,&b);
    c=(a>b)? a : b;
    printf("The greatest value is %d",c);
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int a;
    printf("Enter the value ");
    scanf("%d",&a);
    (a%2==0)?printf("The number is even"):printf("The number is odd");
    return 0;
}

```

```

#include<stdio.h>
int main()
{

```

```

    int a,b,c;
    a=5;
    b=3;
    c=a&b;
    printf("The result is %d",c);
    return 0;
}
/*
a=5= 0101
b=3= 0011
-----
a&b= 0001
-----
*/

```

```

#include<stdio.h>
int main()
{
    int a,b,c;
    a=5;
    b=3;
    c=a|b;
    printf("The result is %d",c);
    return 0;
}
/*
a=5= 0101
b=3= 0011
-----
a|b= 0111 = 7
-----
*/

```

```

#include<stdio.h>
int main()
{
    int a,b,c;
    a=5;
    b=3;
    c=a^b;
    printf("The result is %d",c);
    return 0;
}
/*
a=5= 0101
b=3= 0011

```



-----  
a^b= 0110 = 6  
-----

\*/

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
    int a,b,c;
```

```
    a=5;
```

```
    c=a>>2;
```

```
    printf("The result is %d",c);
```

```
    return 0;
```

```
}
```

```
/*
```

```
a=5= 0101
```

```
    0010
```

```
    0001
```

```
a>>2= 0001
```

```
*/
```

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
    int a,b,c;
```

```
    a=1;
```

```
    b=3;
```

```
    c=a<<b;
```

```
    printf("The result is %d",c);
```

```
    return 0;
```

```
}
```

```
/*
```

```
a=1= 0001
```

```
    0010
```

```
    0100
```

```
    1000
```

```
a<<b = 8
```

```
*/
```

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
    int a,b,c;
```

```
    a=1;
```

```
    b=3;
```

```
    printf("The sizeof a is %d",sizeof(a));
```

```
    printf("\nThe sizeof short data type is %d",sizeof(short));  
    return 0;  
}
```

```
#include<stdio.h>  
int main()  
{  
    int n,r;  
    printf("Enter the value: ");  
    scanf("%d",&n);  
    r=n%2;  
    if (r==1)  
    {  
        printf("The number is ODD");  
    }  
    if (r==0)  
    {  
        printf("The number is EVEN");  
    }  
  
    return 0;  
}
```

```
#include<stdio.h>  
int main()  
{  
    int n,r;  
    printf("Enter the value: ");  
    scanf("%d",&n);  
    r=n%2;  
    if (r==1)  
    {  
        printf("The number is ODD");  
    }  
    else  
    {  
        printf("The number is EVEN");  
    }  
  
    return 0;  
}
```

```
#include<stdio.h>
```

```

int main()
{
    int n,r;
    printf("Enter the value: ");
    scanf("%d",&n);
    if (n>0)
    {
        printf("The number is positive");
    }
    else if(n<0)
    {
        printf("The number is negative");
    }
    else
    {
        printf("The number is zero");
    }

    return 0;
}

```

```

#include<stdio.h>
int main()
{
    char n;
    printf("Enter the character: ");
    scanf("%c",&n);
    switch(n)
    {
        case 'a':printf("Vowel");
                break;
        case 'e':printf("Vowel");
                break;
        case 'i':printf("Vowel");
                break;
        case 'o':printf("Vowel");
                break;
        case 'u':printf("Vowel");
                break;
        case 'A':printf("Vowel");
                break;
        case 'E':printf("Vowel");
                break;
        case 'I':printf("Vowel");

```

```

        break;
    case 'O':printf("Vowel");
        break;
    case 'U':printf("Vowel");
        break;
    default:printf("Not vowel");
        break;
}
return 0;
}

```

```

#include<stdio.h>
int main()
{
    char n;
    printf("Enter the character: ");
    scanf("%c",&n);
    switch(n)
    {
        case 'a':
        case 'e':
        case 'i':
        case 'o':
        case 'u':
        case 'A':
        case 'E':
        case 'I':
        case 'O':
        case 'U':printf("Vowel");
            break;
        default:printf("Not vowel");
            break;
    }
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int i=1,n;
    printf("Enter the value of n : ");
    scanf("%d",&n);
    while(i<=n)
    {
        printf("%d ",i);
        i++;
    }
}

```

```

    }
    return 0;
}

#include<stdio.h>
int main()
{
    int i=1,n;
    printf("Enter the value of n : ");
    scanf("%d",&n);
    printf("The ODD numbers are\n");
    while(i<=n)
    {
        printf("%d ",i);
        i+=2;
    }
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int i=2,n;
    printf("Enter the value of n : ");
    scanf("%d",&n);
    printf("The Even numbers are\n");
    while(i<=n)
    {
        printf("%d ",i);
        i+=2;
    }
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int i=5,n;
    printf("Enter the value of n : ");
    scanf("%d",&n);
    while(i<=n)
    {
        printf("%d ",i);
        i+=5;
    }
}

```

```
    }  
    return 0;  
}
```

```
#include<stdio.h>  
int main()  
{  
    int i=1,n,s=0;  
    printf("Enter the value of n : ");  
    scanf("%d",&n);  
    while(i<=n)  
    {  
        s=s+i;  
        i++;  
    }  
    printf("The sum is %d ",s);  
    return 0;  
}
```

```
#include<stdio.h>  
int main()  
{  
    int i=1,n,s=0;  
    printf("Enter the value of n : ");  
    scanf("%d",&n);  
    do  
    {  
        s=s+i;  
        i++;  
    }while(i<=n);  
    printf("The sum is %d ",s);  
    return 0;  
}
```

```
#include<stdio.h>  
int main()  
{  
    int i=1,n,f=1;  
    printf("Enter the value of n : ");  
    scanf("%d",&n);  
    do  
    {  
        f*=i;  
        i++;  
    }
```

```

    }while(i<=n);
    printf("The factorial is %d ",f);
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int i,n,f=1;
    printf("Enter the value of n : ");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        f*=i;
    }
    printf("The factorial is %d ",f);
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int i=1,n,f=1;
    printf("Enter the value of n : ");
    scanf("%d",&n);
    for(;;)
    {
        f*=i;
        if(i==n)
            break;
        i++;
    }
    printf("The factorial is %d ",f);
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int i,n,f=1;
    printf("Enter the value of n : ");
    scanf("%d",&n);
    for(i=n;i>=1;i--)
    {

```

```

        printf("%d ",i);
    }
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int i,n,f=1;
    for(i=0;i<70;i++)
    {
        printf("*");
    }
    printf("\n");
    printf("\t\t\tWelcome\n");
    for(i=0;i<70;i++)
    {
        printf("-");
    }
    printf("\n");
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int i,n,f=1;
    for(i=0;i<70;i++)
    {
        printf("%c",1);
    }
    printf("\n");
    printf("\t\t\tWelcome\n");
    for(i=0;i<70;i++)
    {
        printf("%c",2);
    }
    printf("\n");
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int i=0,n;

```



```

printf("Enter the value of n: ");
scanf("%d",&n);
while(1)
{
    i++;
    printf("%d ",i);
    if (i==n)
        break;
}
return 0;
}

```

```

#include<stdio.h>
int main()
{
    int s=0,n;

    while(1)
    {
        printf("Enter the value: ");
        scanf("%d",&n);
        s=s+n;
        if (n==0)
            break;
    }
    printf("The sum is %d ",s);
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int s=0,n;

    do
    {
        printf("Enter the value: ");
        scanf("%d",&n);
        s=s+n;
        if (n==0)
            break;
    }while(1);
    printf("The sum is %d ",s);
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int s=0,n;

    for(;;)
    {
        printf("Enter the value: ");
        scanf("%d",&n);
        s=s+n;
        if (n==0)
            break;
    }
    printf("The sum is %d ",s);
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int i,j,n;

    printf("Enter the value of n: ");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=n;j++)
        {
            printf("* ");
        }
        printf("\n");
    }
    return 0;
}

```

Enter the value of n: 7

```

* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *

```

```

#include<stdio.h>
int main()
{
    int i,j,n;

    printf("Enter the value of n: ");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=n;j++)
        {
            printf("%d ",i);
        }
        printf("\n");
    }
    return 0;
}

```

Enter the value of n: 5

```

1 1 1 1 1
2 2 2 2 2
3 3 3 3 3
4 4 4 4 4
5 5 5 5 5

```

```

#include<stdio.h>
int main()
{
    int i,j,n;

    printf("Enter the value of n: ");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("%d ",j);
        }
        printf("\n");
    }
    return 0;
}

```

Enter the value of n: 5

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

```
#include<stdio.h>
int main()
{
    int i,j,n;

    printf("Enter the value of n: ");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("* ");
        }
        printf("\n");
    }
    return 0;
}
```

Enter the value of n: 7

```
*
* *
* * *
* * * *
* * * * *
* * * * *
* * * * * *
```

```
#include<stdio.h>
int main()
{
    int i,j,n;

    printf("Enter the value of n: ");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=n;j++)
        {
            printf("* ");
        }
    }
}
```

```

        if(j==i)
            break;
    }
    printf("\n");
}
return 0;
}

```

Enter the value of n: 7

```

*
* *
* * *
* * * *
* * * * *
* * * * *
* * * * *

```

```

#include<stdio.h>
int main()
{
    int i,j,n;

    printf("Enter the value of n: ");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        if(i%2==0)
            continue;
        printf("%d ",i);
    }
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int i,j,n;

    printf("Enter the value of n: ");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {

```

```

        if(i%2==1)
            continue;
        printf("%d ",i);
    }
    return 0;
}

```

Enter the value of n: 20  
 2 4 6 8 10 12 14 16 18 20

```

#include<stdio.h>
int main()
{
    int a[10];
    a[2]=20;
    a[5]=30;
    a[7]=a[2]+a[5];
    printf("The sum is %d",a[7]);
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int a[10];
    printf("Enter the numbers ");
    scanf("%d%d",&a[2],&a[5]);
    a[7]=a[2]+a[5];
    printf("The sum is %d",a[7]);
    return 0;
}

```

```

#include<stdio.h>
int main()
{
    int a[10];
    int i=2,j=5;
    printf("Enter the numbers ");
    scanf("%d%d",&a[i],&a[j]);
    a[j+2]=a[j-3]+a[5];
    printf("The sum is %d",a[i+j]);
    return 0;
}

```

```
#include<stdio.h>
```

```
int main()
{
    int a[10]={10,20,30,40,50};
    int i;
    printf("The array elements are\n");
    for(i=0;i<10;i++)
    {
        printf("%d\n",a[i]);
    }

    return 0;
}
```

```
#include<stdio.h>
```

```
int main()
{
    int a[10];
    int i,n;
    printf("Enter the value of n ");
    scanf("%d",&n);
    printf("Enter the array elements\n");
    for(i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
    }
    printf("The array elements are\n");
    for(i=0;i<n;i++)
    {
        printf("%d ",a[i]);
    }
    return 0;
}
```

```
#include<stdio.h>
```

```
int main()
{
    int a[10];
    int i,n;
    printf("Enter the value of n ");
    scanf("%d",&n);
```

```

printf("Enter the array elements\n");
for(i=0;i<n;i++)
{
    scanf("%d",&a[i]);
}
printf("The array elements are\n");
for(i=0;i<n;i++)
{
    printf("%d ",a[i]);
}
printf("\nThe array elements in reverse order\n");
for(i=n-1;i>=0;i--)
{
    printf("%d ",a[i]);
}
return 0;
}

```

```

#include<stdio.h>

```

```

int main()
{
    int a[3][4];
    int i,j;
    printf("Enter the matrix\n");
    for(i=0;i<3;i++)
    {
        for(j=0;j<4;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    printf("\nThe matrix is \n");
    for(i=0;i<3;i++)
    {
        for(j=0;j<4;j++)
        {
            printf("%5d",a[i][j]);
        }
        printf("\n");
    }

    return 0;
}

```



Initializing 2D array

```
#include<stdio.h>
```

```
int main()
{
    int a[3][4]={{1,2,3,4},{2,3,4,5},{5,6,7,8}};
    int i,j;

    printf("\nThe matrix is \n");
    for(i=0;i<3;i++)
    {
        for(j=0;j<4;j++)
        {
            printf("%5d",a[i][j]);
        }
        printf("\n");
    }

    return 0;
}
```

```
#include<stdio.h>
```

```
int main()
{
    int a[3][4]={{1,2},
                 {2},
                 {5,6,7}
                };
    int i,j;

    printf("\nThe matrix is \n");
    for(i=0;i<3;i++)
    {
        for(j=0;j<4;j++)
        {
            printf("%5d",a[i][j]);
        }
        printf("\n");
    }

    return 0;
}
```

```
#include<stdio.h>
```

```
int main()
{
    int a[3][4]={1,1,1,1,2,2,2,2,3,3,3,3};
    int i,j;

    printf("\nThe matrix is \n");
    for(i=0;i<3;i++)
    {
        for(j=0;j<4;j++)
        {
            printf("%5d",a[i][j]);
        }
        printf("\n");
    }

    return 0;
}
```

```
#include<stdio.h>
```

```
int main()
{
    int a[3][4]={1,1,2,2,2,3,3,3};
    int i,j;

    printf("\nThe matrix is \n");
    for(i=0;i<3;i++)
    {
        for(j=0;j<4;j++)
        {
            printf("%5d",a[i][j]);
        }
        printf("\n");
    }

    return 0;
}
```

```
#include<stdio.h>
```

```
int main()
{
    int a[3][4]={};
}
```

```

int i,j;

printf("\nThe matrix is \n");
for(i=0;i<3;i++)
{
    for(j=0;j<4;j++)
    {
        printf("%5d",a[i][j]);
    }
    printf("\n");
}

return 0;
}

```

Add two matrices  
#include<stdio.h>

```

int main()
{
    int a[5][5],b[5][5],c[5][5];
    int i,j,m,n;
    printf("Enter the order of the matrix\n");
    scanf("%d%d",&m,&n);
    printf("\nEnter the first matrix is \n");
    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    printf("\nEnter the second matrix is \n");
    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            scanf("%d",&b[i][j]);
        }
    }

    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            c[i][j]=a[i][j]+b[i][j];

```

```

    }
}
printf("The resultant matrix is \n");
for(i=0;i<m;i++)
{
    for(j=0;j<n;j++)
    {
        printf("%5d",c[i][j]);
    }
    printf("\n");
}

return 0;
}

```

Sum of boundary elements in an array  
#include<stdio.h>

```

int main()
{
    int a[5][5],b[5][5],c[5][5];
    int i,j,m,n,s=0;
    printf("Enter the order of the matrix\n");
    scanf("%d%d",&m,&n);
    printf("\nEnter the first matrix is \n");
    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            if ((i==0)|| (i==m-1)|| (j==0)|| (j==n-1))
                s+=a[i][j];
        }
    }
    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            printf("%5d",a[i][j]);
        }
    }
}

```

```
    }  
    printf("\n");  
}  
printf("The sum is %d",s);  
  
return 0;  
}
```

```
#include<stdio.h>
```

```
int main()  
{  
    char a[25]={'W','e','l','c','o','m','e','\0'};  
    printf("%s",a);  
    return 0;  
}
```

```
#include<stdio.h>
```

```
int main()  
{  
    char a[50]="Welcome to C Programming";  
    printf("%s",a);  
    return 0;  
}
```