Write a C program to implement sum of principal diagonal and secondary diagonal element.

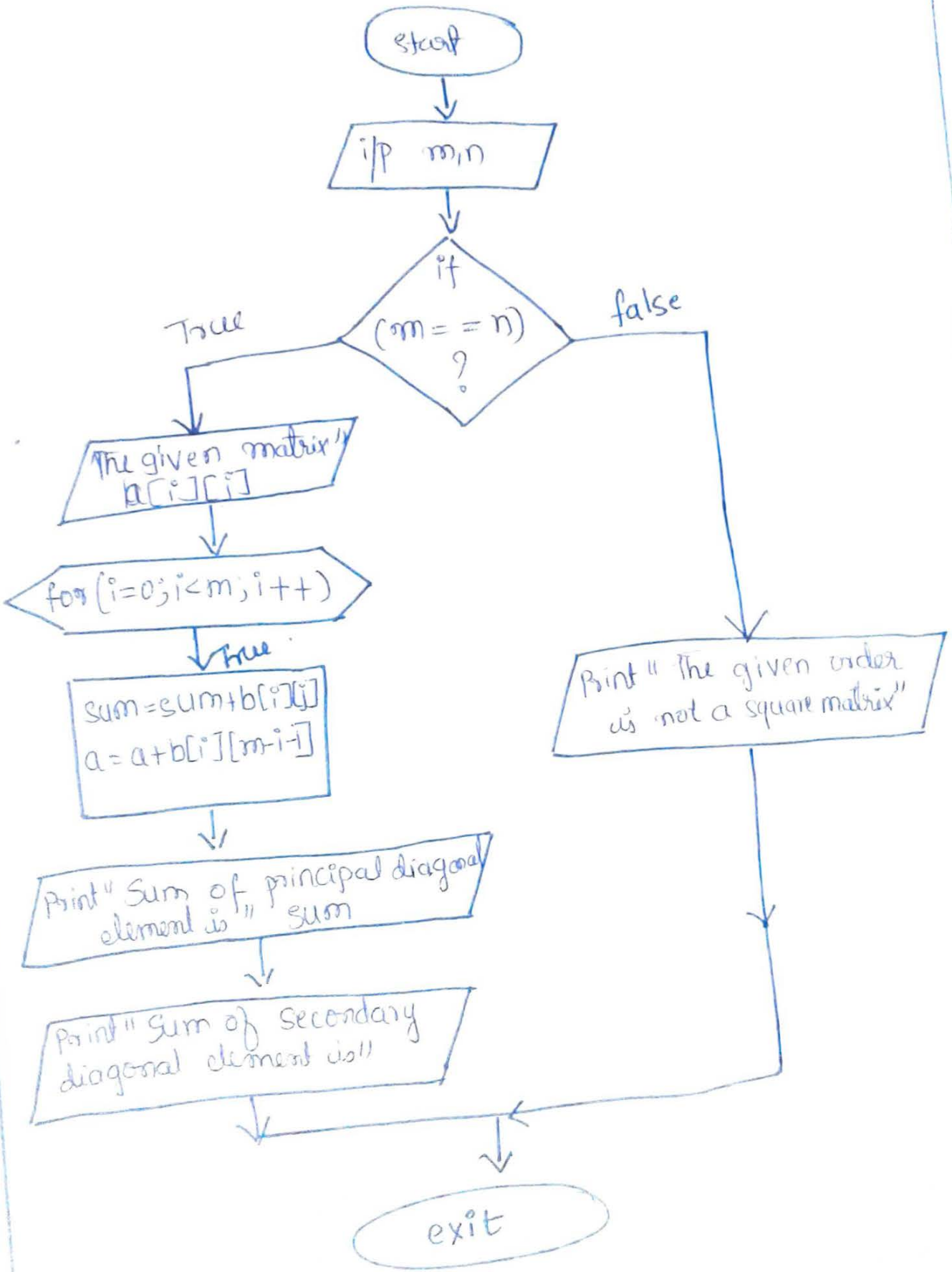
```
#include <stdio.h>
void main()
{
    int b[10][10], i, j, m, n, a=0, sum=0;
    printf("Enter the order of the matrix");
    scanf("%d %d",&m,&n);
    printf("%d\t%d", m, n);
    if (m==n)
    {
        printf("\n Enter the elements of the matrix");
        for(i=0; i<m; i++)
        {
            for(j=0; j<n; j++)
            {
                scanf("%d ", &b[i][j]);
                printf("%d\t", b[i][j]);
            }
            printf("\n");
        }
    for(i=0; i<m; i++)
        for(j=0; j<n; j++)
        {
            printf("%d\t", b[i][j]);
        }
        printf("\n");
    for(i=0; i<m; i++)
    {
        sum = sum+ b[i][j];
        a= a+ b[i][m-i-1];
    }
    printf("The sum of Principal diagonal element is =%d \n", sum);
```

```
printf(" The sum of secondary diagonal element is = %d",a);
}
else
  printf(" The given order is not a square matrix ");
}
```

Algorithm :-

step1: start
step2: I/p m,n
step3: if (m==n)
  print " Enter the coefficient of matrix"
    print b[i][j]
step4: " The given matrix is"
  Repeat for(i=0; i<m; i++)
    for(j=0; j<n; j++)
  print " b[i][j]"
step5: for(i=0; i<m; i++)
  sum = sum + b[i][j]
  a = a + b[i][m-i-1]
  end for
print " Sum of principal diagonal element is "
print " Sum of secondary diagonal element is"
step6: else
  print(" The given order is not a square matrix");
step7: exit

Flowchart :-


start
i/p m,n
if (m==n) ?
True
false
The given matrix a[i][i]
for(i=0;i<m;i++)
true
sum=sum+b[i][j]
a=a+b[i][m-i-1]
Print "Sum of principal diagonal element is" sum
Print "Sum of secondary diagonal element is"
Print "The given order is not a square matrix"
exit

```c
void main ()
{
    int b[10][10];
    int i, j, m, n, a = 0, sum = 0;
    printf("Enter the order of the matrix :");
    scanf("%d %d", &m, &n);
    printf("%d\t%d",m,n);
    if (m == n )
    {
        printf("\nEnter the co-efficients of the matrix\n");
        for (i = 0; i < m; ++i)
        {
            for (j = 0; j < n; ++j)
            {
                scanf("%d", &b[i][j]);
                printf("%d\t",b[i][j]);
            }
            printf("\n");
        }
        printf("The given matrix is \n");
        for (i = 0; i < m; ++i)
        {
            for (j = 0; j < n; ++j)
            {
                printf(" %d\t", b[i][j]);
            }
            printf("\n");
        }
        for (i = 0; i < m; ++i)
        {
            sum = sum + b[i][i];
            a = a + b[i][m - i - 1];
        }
        printf("\nThe sum of the [illegible] diag[illegible] [illegible] %d\n[illegible]);
        printf("The sum of the [illegible] [illegible] %d\n[illegible]);
    }
```

Status Runtime error **Date** 2020-06-16 05:33:34 **Time** 0 sec **Mem** 9424 kB

Input

```
3 3
90 11 12
13 14 15
16 17 20
```

Output

```
90  11  12
13  14  15
16  17  20

The sum of the PRINCIPAL diagonal elements is = 124
The sum of the off secondary diagonal elements is  = 42
```

Runtime Error

```
NZEC
```