**Algorithm**

1. Start.
2. Enter number of elements to enter in both X and f(X) sets.
3. Enter and read elements of set X and set f(X) one by one.
4. Calculate mean of discrete probability distribution. Within for loop from 0 to n, use equation. sum = sum + x[i]\*z[i];
5. Equal average variable to sum.
6. In another for loop, calculate variance from 0 to n using equation .

e=pow(x[i],2);

sum1 = sum1 + (e\*z[i]);

1. Equal variance = sum1 - (pow(average,2));

std\_deviation = sqrt(variance);

1. Print mean and variance.
2. Stop.

**Program Code**

#include <stdio.h>

#include <math.h>

#define MAXSIZE 10

void main()

{

float x[MAXSIZE],z[MAXSIZE];

int i, n,e;

float average, variance, std\_deviation, sum = 0, sum1 = 0, sum0 = 0;

printf("Enter the value of N of Set X and f(x)\n");

scanf("%d", &n);

printf("Enter %d real numbers of set x \n", n);

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

{

scanf("%f", &x[i]);

}

printf("Enter %d real numbers of set f(x)\n", n);

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

{

scanf("%f", &z[i]);

}

/\* Compute the sum of all elements \*/

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

{

sum = sum + x[i]\*z[i];

}

average = sum;

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

{

e=pow(x[i],2);

sum0=sum0+(e\*z[i]);

}

variance = sum0 - pow(average,2);

std\_deviation = sqrt(variance);

printf("Mean = %.2f\n", average);

printf("variance = %.2f\n", variance);

printf("Standard deviation = %.2f\n", std\_deviation);

}

**Output**

