```c
#include <stdlib.h>
#include <stdio.h>
#include <fcntl.h>
#include <math.h>

struct dpoint
{
    double x;
    double p;
};

//generate data-file for F(x)
void
generateF(struct dpoint* mas,int n)
{
    FILE* out = fopen("F.txt","w");
    double sum = 0;
    fprintf(out, "0.000 %lf\n",-2*abs(mas[0].x));
    for (int i = 0; i < n; ++i)
    {
        fprintf(out, "%.3lf %.3lf\n\n",sum,mas[i].x);
        sum+= mas[i].p;
        fprintf(out, "%.3lf %.3lf\n",sum,mas[i].x);
    }
    fprintf(out, "1.000 %.3lf\n",2*mas[n-1].x);
    fclose(out);
}

//generate data-file for polygon
void
generateP(struct dpoint* mas,int n)
{
    FILE* out = fopen("P.txt","w");
    for (int i = 0; i < n; ++i)
    {
        fprintf(out,"%.3lf %.3lf\n",mas[i].p,mas[i].x);
    }
    fclose(out);
}

int
main(void)
{
    int n;
    printf("Введите количество точек\n");
    scanf("%d",&n);
    struct dpoint mas[n];
    double sum = 0;
    double M,D,sig = 0.0;
    for (int i = 0; i < n; ++i)
    {
        printf("Enter x[%d] and p[%d]\n",i,i);
        scanf("%lf %lf",&mas[i].x,&mas[i].p);
        sum += mas[i].p;
        M+= mas[i].x*mas[i].p;
        D+= mas[i].x*mas[i].x*mas[i].p;
    }
    D-= M*M;
```

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    sig = sqrt(D);
    if(sum != 1.0){
        printf("Error in data\n");
        printf("Sum of pi is %.3lf\n",sum);
        return 0;
    }
    generateF(mas,n);
    generateP(mas,n);
    printf("M is %.3lf\n",M);
    printf("D is %.3lf\n",D);
    printf("sig is %.3lf\n",sig);
    system("gnuplot scF.txt");
    system("gnuplot scP.txt");
    system("ristretto F(x).png");
    system("ristretto polygon.png");
    return 0;
}
```