```c
#include <stdio.h>

int main()
{
    int    a, b;
    double x, y;

    printf("%.2f\n", 3.5+1/2+56%10);

    scanf("%d", &a);
    printf("%d\n", a++*1/3);

    scanf("%d%lf%lf", &a, &x, &y);
    printf("%.2f\n", x+a%3*(int)(x+y)%2/4);

    scanf("%d%d%lf%lf", &a, &b, &x, &y);
    printf("%.2f", (float)(a+b)/2+(int)x%(int)y);

    return 0;
}

```

```c
#include <stdio.h>

int main()
{
    int    a, b, c;
    double x, y;

    scanf("%d%d%d", &a, &b, &c);
    printf("%d\n", b>c&&b==c);

    scanf("%d%d%d", &a, &b, &c);
    printf("%d\n", !(a>b)&&!c||1);

    scanf("%d%d%d", &a, &b, &c);
    printf("%d\n", !(x=a)&&(y=b)&&0);

    scanf("%d%d%d", &a, &b, &c);
    printf("%d\n", !(a+b)+c-1&&b+c/2);

    printf("%d\n", 1&&30%10>=0&&30%10<=3);

    return 0;
}

```

```c
#include <stdio.h>

int main()
{
    int a, b, c;

    scanf("%d%d", &a, &b);
    printf("%d\n", a+=a+b);

    scanf("%d%d%d", &a, &b, &c);
    printf("%d\n", a*=b%c);

    scanf("%d%d", &a, &c);
    printf("%d\n", a/=c-a);

    scanf("%d", &a);
    printf("%d\n", a+=a-=a*=a);

    scanf("%d%d", &a, &b);
    printf("%d\n", a=(a=++b,a+5,a/5));

    scanf("%d%d", &a, &b);
    printf("%d\n", (a>=b>=2)?1:0);

    return 0;
}

```

```c
#include <stdio.h>

int main()
{
    unsigned int i, n;
    unsigned int t=1;
    float  f_pi=2.0, f_i=1.0;
    double d_pi=2.0, d_i=1.0;

    scanf("%u", &n);
    scanf("%u", &t);

    for (i=0; i<n; i++) {
        switch (t) {
            case 1:
                f_pi *= 4.0*f_i*f_i/(2*f_i-1)/(2*f_i+1);
                f_i  += 1.0;
                break;
            case 2:
                d_pi *= 4.0*d_i*d_i/(2*d_i-1)/(2*d_i+1);
                d_i  += 1.0;
                break;
        }
    }

    switch (t) {
        case 1:
            printf("%.8f\n", f_pi);
            break;
        case 2:
            printf("%.16f\n", d_pi);
            break;
    }

    return 0;
}

```

```c
#include <stdio.h>

int main()
{
    int   xi, yi;
    float xf, yf;

    printf("输入一个整数:");
    scanf("%d", &xi);
    if (xi<0 || xi>=30) {
        printf("x输入错误, 要求0<=x<30");
        return 1;
    }
    switch (xi/10) {
        case 0:
            yi = xi;
            break;
        case 1:
            yi = xi*xi+1;
            break;
        case 2:
            yi = xi*xi*(xi+1)+1;
    }
    printf("x=%d时, y=%d\n", xi, yi);

    printf("输入一个实数:");
    scanf("%f", &xf);
    if (xf<0 || xf>=30) {
        printf("x输入错误, 要求0<=x<30");
        return 2;
    }
    if (xf<10)
        yf = xf;
    else if (xf<20)
        yf = xf*xf+1;
    else
        yf = xf*xf*(xf+1)+1;
    printf("x=%f时, y=%f", xf, yf);

    return 0;
}

```

```c
#include <stdio.h>

int main()
{
    int    n, i;
    int    s1, s2;
    double s3;

    scanf("%d", &n);
    if (n<=0) {
        printf("输入数据不是正整数");
        return 1;
    }

    s1 = s2 = 0;
    s3 = 0.0;
    for (i=1; i<=n; i++) {
        s1 += i;
        s2 += (2*i)-1;
        s3 += ((i%2)?1.0:-1.0)/i;
    }
    printf("for:s1=%d,s2=%d,s3=%f\n", s1, s2, s3);

    s1 = s2 = 0;
    s3 = 0.0;
    i  = 1;
    while (i<=n) {
        s1 += i;
        s2 += (2*i)-1;
        s3 += ((i%2)?1.0:-1.0)/i;
        i++;
    }
    printf("while:s1=%d,s2=%d,s3=%f\n", s1, s2, s3);

    s1 = s2 = 0;
    s3 = 0.0;
    i  = 1;
    do {
        s1 += i;
        s2 += (2*i)-1;
        s3 += ((i%2)?1.0:-1.0)/i;
        i++;
    } while (i<=n);
    printf("do while:s1=%d,s2=%d,s3=%f\n", s1, s2, s3);

    return 0;
}

```

```c
#include <stdio.h>

int main()
{
    int n;
    int i, j;
    long long sum, fact;

    scanf("%d", &n);
    if (n<1 || n>16) {
        printf("输入错误");
        return 1;
    }

    sum = 0;
    for (i=1; i<=n; i++) {
        fact = 1;
        for (j=1; j<=i; j++)
            fact *= j;
        sum += fact;
    }
    printf("两层循环结果：%lld\n", sum);

    sum =0;
    fact = 1;
    for (i=1; i<=n; i++) {
        fact *= i;
        sum += fact;
    }
    printf("单层循环结果：%lld\n", sum);

    return 0;
}

```

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

int main()
{
    double a0, a1, a2, a3;
    double e;
    double x, x1;
    double a, b, c;
    double fa, fb, fc;
    int    n;

    scanf("%lf%lf%lf%lf", &a3, &a2, &a1, &a0);
    scanf("%lf", &e);

    // 牛顿法
    scanf("%lf", &x1);
    n = 0;
    do {
        x = x1;
        x1 = x - (a3*x*x*x+a2*x*x+a1*x+a0) / (3*a3*x*x+2*a2*x+a1);
        n++;
    }while (fabs(x1-x)>=e);
    printf("%f\n%d\n", x1, n);

    // 二分法
    scanf("%lf%lf", &a, &b);
    n = 0;
    fa = a3*a*a*a+a2*a*a+a1*a+a0;
    fb = a3*b*b*b+a2*b*b+a1*b+a0;
    if (fa*fb > 0) {
        printf("区间内无解或有多个解");
        return 1;
    }
    do {
        c = (a+b)/2;
        fc = a3*c*c*c+a2*c*c+a1*c+a0;
        if (fa*fc > 0)
            a = c;
        else
            b = c;
        n++;
    }while (fabs(b-a)>=e);
    printf("%f\n%d\n", b, n);

    return 0;
}

```