

An Example of White Box Testing

Let's do another example.

Or, rather, let's recall another example.

The following slides are from ECE120.

33

Our Next Program Calculates the Roots of a Quadratic

Remember the equation?

$$F(x) = Ax^2 + Bx + C$$

has roots ($F(x) = 0$) at

$$x = \frac{-B \pm \sqrt{B^2 - 4AC}}{2A}$$

where \sqrt{N} is the square root of N .

34

Short Version of the Quadratic Code

```
/* solution of the quadratic
   equation ax^2+bx+c=0 adapted from
   V. Kindratenko's notes on
   30 August 2016. */
int main()
{
    float a, b, c;    /* coefficients */
    float D;         /* discriminant */
    float x1, x2;    /* solution(s) */
```

35

Read Coefficients and Explain the Program

```
// Get coefficients.
printf ("Enter a, b, and c: ");
if (3 != scanf ("%f %f %f",
                &a, &b, &c)) {
    // error message
    return 3; // Program failed.
}
printf ("Solving equation ");
printf ("%fx^2+%fx+%f=0.\n", a, b, c);
```

36