```c
/*###################################################################*/
/* HW01_Samet_Sait_Talayhan_101044044_part3.c                        */
/* ----------------------                                            */
/* Created on March 1, 2013, 9:49 PM by Samet Sait Talayhan.         */
/*                                                                   */
/* Description                                                       */
/* ----------------------                                            */
/* This program read 3 second degree polynomials from an input
/* text file “polynomials.txt” and outputs their roots.
/* And Program assume that the polynomials have reel roots.
/* ----------------------                                            */
/*                                                                   */
/*###################################################################*/
/*###################################################################*/
/*                            Includes                               */
/*###################################################################*/
#include <stdio.h>
#include <math.h>

/*-------------------------------------------------------------------*/
/*                     Function Prototypes                           */
/*-------------------------------------------------------------------*/
double getRoot(double a,double b,double c,int rootNumber);/*1 or 2*/

/*###################################################################*/
/* int main()                                                        */
/* ----------                                                        */
/* Return                                                            */
/* ----------                                                        */
/*0 on success                                                       */
/*###################################################################*/
int
main(void)
{
    FILE *inp;
    double a,   /* coefficients */
           b,
           c;
    inp = fopen("polygons.txt","r");

    /* Get a,b,c value for first equation from polygons.txt */
    fscanf(inp,"%lf%lf%lf",&a,&b,&c);
    printf("Test1 getRoot Function %.2f:\n",getRoot(a,b,c,1));

    /* Get a,b,c value for second equation from polygons.txt */
    fscanf(inp,"%lf%lf%lf",&a,&b,&c);
    printf("Test2 getRoot Function %.2f:\n",getRoot(a,b,c,1));

    /* Get a,b,c value for third equation from polygons.txt */
    fscanf(inp,"%lf%lf%lf",&a,&b,&c);
    printf("Test3 getRoot Function %.2f:\n",getRoot(a,b,c,2));

    fclose(inp);
    return 0;
}
/*-------------------------------------------------------------------*/
/*               Function Implementations                            */
/*-------------------------------------------------------------------*/
/* getRoot Function                                                  */
/* -------------------                                               */
/* double a, - input Parameter // Polygon's degree
   double b,
   double c,
   int rootNumber //determine root which is
returned
/* This function returns the specified root                          */
/*-------------------------------------------------------------------*/
```

```c
double
getRoot(double a,double b,double c,int rootNumber)
{
    double delta; /* Discriminant */

    /* Calculate discriminant */
    delta = (b * b) - (4 * a * c);

    return (-b + pow(-1.0,(double)rootNumber)*sqrt(delta)) / (2 * a);
}
```