

Άσκηση 6

Να γραφεί πρόγραμμα που να υπολογίζει τις ρίζες της β'θμιας εξίσωσης $ax^2 + bx + \gamma = 0$, όπου $a \neq 0$.

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

int main(void)
{
    float a, b, c, x1, x2, D;

    printf("Enter coefficients a, b and c: ");
    scanf("%f%f%f", &a, &b, &c);

    D = b*b - 4*a*c;    /* Diakrinousa */

    if (D>0)
    {
        x1 = (-b + sqrt(D))/(2*a);
        x2 = (-b - sqrt(D))/2/a;
        printf("Two real roots:  x1 = %f, x2 = %f\n",x1,x2);
    }
}
```

```
else if (D > -1.0e-6 && D < 1.0e-6)
    printf("Double real root:  x1 = x2 = %f\n",-b/2/a);
else /* Complex roots since D < 0 */
{
    printf("Complex root x1 = %f + j %f\n",
        -a/2/b,sqrt(-D)/2/a);
    printf("Complex root x2 = %f - j %f\n",
        -a/2/b,sqrt(-D)/2/a);
}

return 0;
}
```