

CS 4223 Homework #2

Due September 10, 2019

Assignment

There is a C program on the second page of this handout. Translate this program to GSTAL. As an accommodation to the GSTAL language, you may use minimal prompts and minimal output formatting. Include a box comment at the beginning of your program in the style shown in the C code but with the comment syntax and text modified to make it appropriate for this assignment.

Comment your GSTAL code to make it clear what the program does.

What to Turn In

- Submit your GSTAL program on Canvas.
- Turn in a hardcopy of a numbered listing of your GSTAL program. Use the `-l` option of GSTAL to produce your numbered listing.

```

/*-----
 * Programmer--Bryan Crawley
 * Course-----CS 4223
 * Project-----Homework #2
 * Due-----September 10, 2019
 *
 * This program computes and displays an estimated square
 * root.
 *-----
 */

#include <stdio.h>

int main()
{
    float x;          /* The number whose square root is estimated */
    float estimate;    /* Estimated square root */
    float newEstimate; /* Closer estimated square root */
    float difference;  /* Difference between estimates */

    /* Enter the raw data. */
    printf("Select number: ");
    scanf("%f", &x);

    /* An initial estimate of the square root */
    newEstimate = 1.0;

    /* Estimate the square root */
    do {
        estimate = newEstimate;
        newEstimate = 0.5*(estimate + x/estimate);
        difference = newEstimate - estimate;
    } while ((difference < -0.005) || (difference > 0.005));

    /* Display the estimated square root */
    printf("Approximate square root: %e\n", newEstimate);
    return 0;
}

```