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I pledge my honor that I have abided by the Stevens Honors System.

My code is incomplete but that's mainly due to assembly being stupid.

My first label is the start label:

This branch and linked to bisection_method. This is where the array and the double a and b parameters will be declared to begin the program.

```
start:
   adr x22, coeff // array
   adr x19, x
   adr x5, a
   adr x6, b
   bl bisection_method
```

Bisection_method:

This is where the necessary parameters and conversion take places. Within this method we have the horners method label as well as bisection.

```
 LDUR D19, [x19]
   LDUR D5, [x5]
   LDUR D6, [x6]
   adr x20, c
   LDUR D20, [x20]
   adr x21, epilson
   LDUR D21, [x21]
   mov x7, #2
   scvtf D7, x7
   bl bisection
   bl polynomial
```

Horners_method:

This label uses the horners algorithm to expand the polynomial to plug for when it comes time to branch to this label to compute at a given x.

```
mov x23, #1 // counter for horners
   adr x1, lim
   lsl x9, x23, #3
   add x9, x9, x22
   ldr x10, [x22, #0]
   mov x24, x10
   cmp x23, x1
   b.ge Exit
   add x19, x19, x10
   mul x24, x24, x19
   mov x0, x24
   add x23, x23, #1
```

Bisection:

This is where the main function does its work. This is where the bisection of a polynomial takes place. This checks with the error as well. This is where it's not finished. So it just stops.

```
   bl horners_method
   b.le Exit
   fmov D20, D5
   fsub D6, D6, D5
   fcmp D6, D21
   b.le Exit
   fadd D5, D5, D6
   fdiv D20, D5, D7              //finds midpoint
   bl polynomial
   b.ne Exit
   fmul
```

I was following thecrazyprogrammer and geeksforgeeks for pseudo-code for the bisection and horners algorithms.