



Algorithm:

- 1) **Create 2 pipes** (a write to child pipe, and a read from child pipe)
 Example: `int toC[2]; // a pipe for writing to the child`
`pipe(toC);`
- 2) Convert pipe file descriptors to file pointers.
 Example: `FILE *ptoC = fdopen(toC[1]);`
- 3) **fork** to create a child who will exec bc
- 4) begin Parent
 close unused pipe descriptors
 Loop:
 read 'function expression'. Example: "2*x"
 read 'lo, hi, N' where N is # evaluation pts. Example: "0 4 8"
 unbuffer writes to the write end of 'write to child' pipe (hint: setbuf)
 Loop: for 'val' from lo to hi (N points). 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0
 write 'x=val' to the appropriate pipe (don't forget '\n').
 write the function expression to the appropriate pipe (don't forget '\n').
 End loop
 Initialize sum to 0
 Loop: for 'val' from lo to hi in N steps
 read 'result' from the appropriate pipe
 keep a running sum of the results
 End loop
 output average to the screen
 End Loop
 End Parent

 begin Child
 close unused pipe descriptors
 duplicate on stdin and stdout the pipe file descriptors inherited from the parent
 appropriately exec "bc"
 end Child