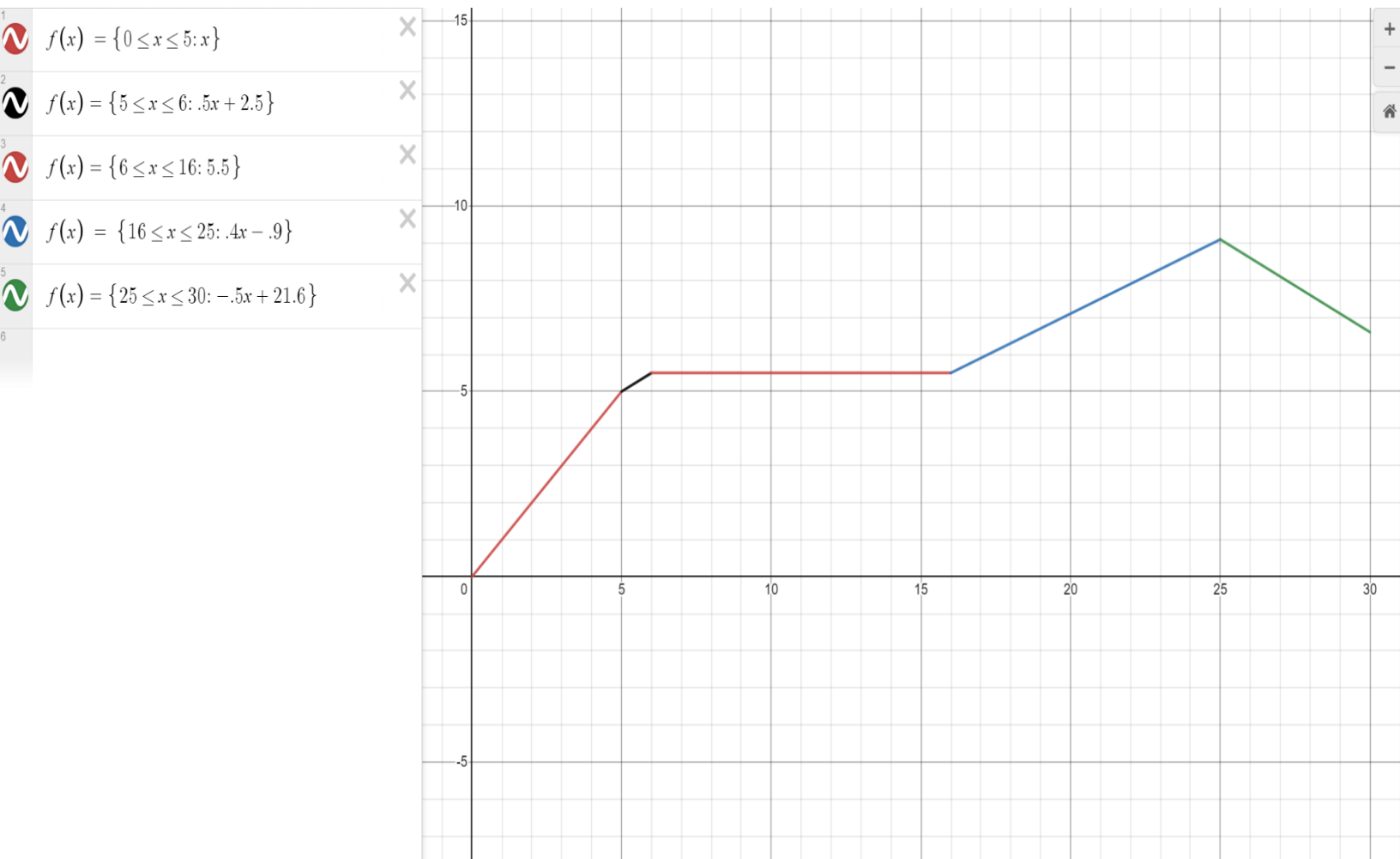


By submitting this assignment, we agree to the following:  
Aggies do not lie, cheat, or steal, nor tolerate those who do.  
We have not given or received any unauthorized aid on this assignment.  
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Section: ENGR 102 536  
Assignment: Lab6Team\_Plan  
Date: 10/8/23

### Graph



### Variables

1. Stress
2. Strain

### Steps

1. Prompt context, and ask for input

2. If input is out of bounds (negative) ask for a new one
3. Create if statement for each domain for each line in the piecewise function
4. Enter the user input into the piecewise function ONLY when it is within the correct domain
5. Output the stress + the units + the region
6. If input is past the fracture point print out: You have passed the fracture point, this material broke at a strain of 30 and a stress of 6.6 N/m<sup>2</sup>

### Test Cases

1.

INPUT: 0

OUTPUT: The stress is: 0.0 N/m<sup>2</sup>. This point is in the Young's Modulus region  
Edge case to test 0

2.

INPUT: -10

OUTPUT: Negative values are not accepted, please enter a Positive value  
Edge case to test negative

3.

INPUT: 15

OUTPUT: The stress is: 5.5 N/m<sup>2</sup>. This point is in the plastic region region  
Typical case for 3rd region

3.

INPUT: 5.5

OUTPUT: The stress is: 5.25 N/m<sup>2</sup>. This point is in the linear elastic region  
Typical case for 2nd region

3.

INPUT: 23

OUTPUT: The stress is: 8.3 N/m<sup>2</sup>. This point is in the strain hardening region  
Typical case for 4th region

3.

INPUT: 29

OUTPUT: The stress is: 7.100000000000001 N/m<sup>2</sup>. This point is in the necking region  
Typical case for 5th region

4.

INPUT: .5

OUTPUT: The stress is: 0.5 N/m<sup>2</sup>. This point is in the Young's Modulus region  
Typical case for 1st region

5.

INPUT: 1500

OUTPUT: You have passed the fracture point, this material broke at a strain of  
30 and a stress of 6.6 N/m<sup>2</sup>  
Edge case to test outside of bounds

**All inputs gave outputs within acceptable limits.**