Steps:

1. Define 4 different linear equations for the strain-stress relationship graph
2. Make the functions piecewise with if statements.
3. Have user input a strain point
4. Report the stress point based on the strain point from the equations
5. Strain is the x value
6. Stress is the y value
7. If statement from point O to A
8. Elif statement from point B to C
9. Elif statement from point C to D
10. Elif statement from point D to E
11. Elif statement for strain above E for past breaking point
12. Else statement for invalid input for strain below O

- Hard code the values of O, A, B, C, D, E
- Hard code the 4 equations for the stress values
- User input the strain value (“Input the value of strain for range O to infinity: “,)
- 6 Conditionals for ranges of strain values
- Make the else statement for strain values less than O
    - [∞, O]: y = undefined
    - [O, A]: y = 3600x
    - [B, C]: y = 42.1x + 44.47
    - [C, D]: y = 108.3x + 40.5
    - [D, E]: y = -125x + 82.5
    - [E, ∞]: y = past breaking point

- **Test cases:**
    - Normal Cases:
        - Region = young’s modulus, strain = 0.01, stress = 36
        - Region = plastics, strain = 0.02, stress = 45.312
        - Region = strain hardening, strain = 0.12, strain = 53.49
        - Region = necking, strain = 0.20, stress = 57.
    - Edge Cases:
        - strain = 0, stress = 0
        - strain = 0.0125, stress = 45
        - strain = 0.06, stress = 47
        - strain = 0.18, stress = 60
        - Region = breaking point, strain = 0.26, stress = 50
        - strain = 0.30, stress = beyond breaking point
    - Error Catching Cases:
        - strain = -1, stress = undefined