1/ for the linear elastic portion, the Young's modulus is like the $slope = \frac{stress}{strain}$
2/O(0,0)\A(0.01,44)\C(0.05,44)\D(0.18,60)\E(0.27,52)

3/the variables
Input: strain(the number of strain)
Output: stress(the number of stress)

4/the sequence

1) ask user input the strain
2) if the number of strain is less than POINT A, then follows the linear elastic portion.(the Young's modulus);
3) if the number of strain is less than POINT C, then follows the plastic zone;
4) if the number of strain is less than POINT D, then follows the "stain hardening" region;
5) if the number of strain is less than POINT E, then follows the "necking" region;
6) if the number of strain is more than POINT E, then the stress is not exist.

5/test cases

Case1- invalid inputs:
Input:-1;output:"your input is invalid";
Case2-invalid inputs:
Input:0.3;ouput:"your input is invalid";
Case3-region O-A(B):
Input:0.0055;output:24.2;
Case4-region A(B)-C:
Input:0.04;output:44;
Input:0.05;output:44;
Case5-region C-D:
Input:0.1;output:49.76;
Case6-region D-E;
Input:0.2;output:60