***Function REFRACTINGSURFACE***

This Function includes **SIX** functions as following:

1. **The Functions and their Functionality:**
2. **GETINPUT:** Its main purpose is to get the initial needed data. It checks *whether the refracting surface is Spherical or Plane.*
3. **MODIFYINPUT:** Its main purpose is to get the second required data. Passed on the inputs of (1), it checks *whether the spherical surface is Concave or Convex.*
4. **ENTERDATA:** Its main purpose is to get all the needed inputs that will be used to produce the needed results from which we will find the characteristics of the formed image. It asks for *the position of the object, and the indexes of refraction of the two mediums.*
5. **CALCRESULT1:** Its main purpose is to *calculate the needed results that will indicate the characteristics of the image formed by the Spherical surfaces*.
6. **SHOWRESULT1:** Its main purpose is to *display the details of the image formed by the spherical surfaces based on the results of (4).*
7. **CALCRESULT2:** Its main purpose is to *calculate the needed results that will indicate the characteristics of the image formed by plane surfaces and display those characteristics.*
8. **The inputs and outputs of each Function:**
9. **GETINPUT:** It takes no input, but it gives one output (*Whether the surface is spherical or plane*).
10. **MODIFYINPUT:** It takes one input (*The output of (1)*), and gives one output (*Whether the spherical surface is concave or convex*).
11. **ENTERDATA:** It takes no input, but it gives three outputs (*The indexes of refraction of the two mediums, and the position of the object relative to the surface of separation*).
12. **CALCRESULT1:** It takes four inputs (*The output of (2) and the three outputs of (3)*), and gives two outputs (*The Image position relative to the surface of separation, and the magnification of that image*).
13. **SHOWRESULTS1:** It takes two inputs (*The outputs of (4)*), and gives no output.
14. **CALCRESULT2:** It takes three inputs (*The three outputs of (3)),* and gives no output.

**(5) and (6) are the ones that print the characteristics of the formed image.**