Must know in Excel

This will be unlike all other assignments so far. Follow the instructions carefully.

First create a Workbook in Excel, name this file ExcelKnows\_Name.xlsx. Once, you have saved the file you can begin by doing the following tasks.

1. Curve Fitting
   1. In this assignment rename a worksheet in your file to the name “ExpFit”. Within this worksheet you will create an interactive method of fitting the curve as well as making a simple macro. First copy the following information to the worksheet. The table contains the risk in dollars as time progresses. Thus, the time axis is in weeks. Basically, as time passes the risk grows exponentially. The model is known to be , Where A is the initial value, b is the growth factor, e is the exponential function (in excel this is the =EXP(b\*t)), and lastly the t is the Time variable in weeks. Create an interactive model where you create two cells named: “Initial Value”, which is A in the equation, similarly create the other cell to be “Growth Factor”.
   2. Create a graph of the data and include a separate series in the chart that is the model. The model will be a column where the cells containing the Growth Factor and Initial Value are used to compute an estimate. Label this column “Model”, add this model series to the graph.
   3. Using the tools in the Developer tab, create two Spin Buttons that allow you to modify The initial and growth factor. You should be able to tweak the growth factor and initial value to get as close to the actual data as possible. However, because the spin buttons only iterate in values of 1, the button for b will need to be a number between 0 and 1. Thus, make the button go from 0-100 then the coefficient b will be b= button number/100, this will produce decimals . You can do this also for the coefficient A but A can range from 0 to 50.

|  |  |
| --- | --- |
| Time | Risk in $ |
| 1 | 163.9303944 |
| 6 | 213.6592228 |
| 11 | 348.6434264 |
| 16 | 554.6559371 |
| 21 | 879.9987829 |
| 26 | 1389.907435 |
| 31 | 2273.048552 |
| 36 | 3704.476608 |
| 41 | 6082.107286 |

* 1. Next, develop macro button, that is capable of fitting the exponential model. The actions in the macro should be: 1. Right click the data points on the plot, Add Trendline, select exponential in the curve fitting window, then click the display equation on the graph, stop recording of macro. Create a button using the Shapes to create a simple button that says, “optimal fit”. The macros should then when ran, fit and display the optimal exponential model in the graph.

1. Consider some old data from some various laptops. This is survey data, where people were asked to rate each laptop on a scale of 0-100 where 100 would be their best. The data looks as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Model** | **Performance** | **Features** | **Overall Rating** |
| Thinkpad X200 | 77 | 87 | 83 |
| VGN-Z598U | 97 | 85 | 82 |
| U6V | 83 | 80 | 81 |
| Elitebook 2530P | 77 | 75 | 78 |
| X360 | 64 | 80 | 78 |
| Thinkpad X300 | 56 | 76 | 78 |
| Ideapad U110 | 55 | 81 | 77 |
| Micro Express JFT2500 | 76 | 73 | 75 |
| Toughbook W7 | 46 | 79 | 73 |
| HP Voodoo Envy133 | 54 | 68 | 72 |

Create three macros buttons. These buttons should sort from highest to lowest values for each of the three responses, Performance, Features, and Overall rating. You should create a button for each of these. The goal is to supply a list below each button that contains the top three laptop names based on performance. It should look nice.

This should be incorporated within the same workbook but in a different sheet named “topthree”. There you will create three buttons. For example, the first button, should sort based on performance, and should display below the button the top three computer names who were rated the highest in performance. Thus, actions to record include sorting, and copying the correct information into a nice display. You have the freedom to display or organize the display in any way you want including colors.

1. Lastly, create macros that allow you to easy navigate from one sheet to the to the other. This can be done by creating buttons that will allow a user to move from ExpFit sheet to topthree sheet by pressing a button.

All should be within a single workbook. If you reach an error make sure to reach out with plenty of time.