1

30 pts. **The Community Arms.** To do this problem , let’s use the new table construct. We did several of these problems in class using this and, as you know, this does have its advantages.

buildingThe **Commuinty Arms.xls** file represents a new 14 story residential apartment building. As all the apartments are leased, management is asking you as a spreadsheet designer to calculate the yearly lease amounts. Lease amount are broken down into 5 categories as indicated in **community arms.xls**

* The Rental for the apartment based on the number of bedrooms.
* The garage fee if applicable
* The pool fee if applicable
* Upgrade package (new Kitchen appliances) if applicable
* Rebates for long term leases.

1. To calculate the rental, the apartment charges 350 plus 200 for each bedroom per month. As an example, a 2 bedroom would cost 350 + 200\*2 = 750 per month. Calculate the yearly (12 months) rental for each apartment (remember to multiple by 12.
2. The Garage is an option designated as 1 if the apartment has a parking space and 0 if not. Garage spaces cost 100 per month. Calculate, if any, the yearly garage cost. (again multiple by 12). Note: You should be doing this either by a multiplication or an if statement. This also applies to part C and D
3. The pool is optional costing 600 for the season. Indicate this cost if the apartment has pool privileges (indicated as a 1 or 0). This is a one time yearly charge.
4. If the upgrade package is selected (again indicated by 0 or 1) an additional $75 a month is charged. (again multiply by 12 to get yearly amount)
5. Total up the costs. This is the yearly rent for each apartment.
6. The management has decided to reward those renters who lease for more than 1 year. They have set a 10% rebate (give back) for all charges above $10000 for the year for those apartments with 2 or more year leases. Calculate this rebate if applicable. Hint: Consider this calculation: 12000 for the year, 2 year lease. This breaks down to 10000 and 2000. 10% is applied against the 2000 giving a rebate of 200. Determine whether a 2 or more year lease by an IF statement.
7. Calculate the total net lease for the year as part E minus part F (annual cost – rebate)

The rest of the questions are done by Pivot table.

1. Determine the average yearly rental (what you calculated in G) for each type of bedroom.
2. Show these average yearly amounts for each bedroom type by a bar graph.
3. Table Autoformat appropriately. If necessary, additionally format the numeric columns.

2

Look at Bond movies.xlsx. We are doing this problem by subtotal. **Do not set up the table construct in this file. If you do, you will be wrong.**

You will see that this is a excel spreadsheet of the 22 James Bond movies (what a surprise). Indicated in this are the lead actor, the director and several columns of data. One piece of information is the inflation adjusted revenue. Another is the inflation adjusted cost of making the movie These are the last 2 columns.

1. Profit is the difference between these columns and this is what we are searching for. Calculate in a new column the profit for each of these movies using these last 2 columns.

Now, this problem will do two things. Allow you to do a subtotal and also prove that a pivot table can exist using the same data as a subtotal. We are going to do a pivot table first, and then a subtotal. Remember, do not use the new table construct.

1. Using the insert menu, insert a new pivot table. We want to find the total profits of the movies pertaining to all the directors (Terrence Young, Etc).
2. Order this pivot table by profit per director. Create a bar chart and format as you would like.

Now, let’s get back to sheet1, the underlying data of the pivot table. Once a pivot table is set, changes can be made to the underlying table without affecting the pivot table

1. Now, we want to use subtotals to determine the profit of these films by actor. We need to prep this data in sheet1 for determine this. Now answer this question on your paper and act on it on the spreadsheet. We need to bunch together the films that are associated with each actor, therefore we need to sort on \_\_\_\_\_\_\_\_\_\_\_ . Do this on your spreadsheet.
2. Use the data ribbon to invoke subtotals. Use the previous part (Part 4) to select the column where changes to it invoke a subtotal entry (this should be actor, is that not correct?) The last column (profit) should be checked automatically.
3. Once you have done a subtotal, use the controls to the left to show each actor and the profit that is associated with him for the pictures he was in.
4. We showed several ways of doing graphs on the spreadsheet. One was the use of the control key to extend a range. The other was grouping columns. Whichever way, create a bar graph for this spreadsheet.

You can check to see if you are mathematically correct. The grand totals of both the subtotal and the pivot table should match.

3.

The technique of the solution of this problem is up to you: You have two choices: the new table construct or a traditional spreadsheet into a pivot table.

Now, Open up the recycling 2008.xlsx file, an Excel 2007 file. In this you will find a list of townships, the population for each township and two number pertaining to residential and commercial recycling. For your information, these tonnage figures are the gross number of tons recycled by each township for 2008. To do this calculation correctly in the real world, one would need to figure out tonnage minus residue which is quite complicated and beyond the scope of our study of excel. We shall use these gross tonnage figures and what we are figuring out is the grant the state awards to each township for recycling.

We need to calculate several columns.

AA.The first column: What is the total tonnage recycled by each township. This nothing more than the addition of commercial and recycled tonnage for each township.

BB.The second column: This is twice the residential tonnage. Take the residential numbers and multiply them by 2 for each township.

CC.The third column: Excess commercial: This is a positive number generated by subtracting the second column (bb just above) from aa (the first calculated column). A negative should be set to 0. Use an if statement to do this. Something like =if(bb.column-aa.column<0,0,bb.column-aa.column)

DD. The fourth column: Calculate the residential grant award. This is 5 multiplied by the minimum of either the second column or the third column number.

EE. The fifth column: calculate the excel commercial award. This is the third calculated column (cc) multiplied by 10. It is possible that this award is equal to 0 as that column may be o.

FF. The sixth column: The population portion of the award. Bb – cc (the third column subtracted from the second column)squared and then multiplied by 100 and divided by 80 percent of the population.

GG: Sum the columns calculated at dd, ee and ff.

HH: Let’s calculate the amount awarded to each resident of the township. This is the amount calculated in hh divided bythe population indicated in column C

II:Finally, use an If statement to indicate yes or no if a township’s population is 10000 or more.

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Now, as an example, here’s the calculations for the fifth township,Hatfield:

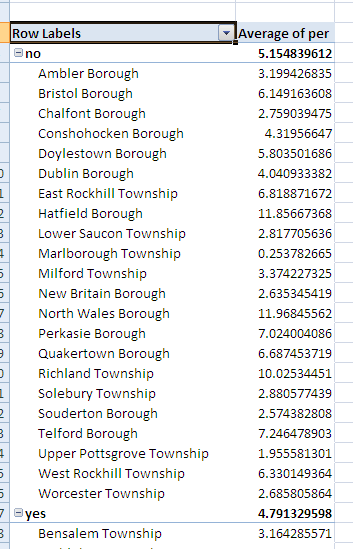
AA: total tonnage from residential and commercial = 3672.66

BB: Twice the residential tonnage = 2734.92999

CC: Commercial overage = 937.75

DD: The residential award = 5 \* 2734.93 = 13674.65

EE: commercial award = 10 \* 937.75 = 9377.5

FF: Population portion = 100 \* (3672.66-937.75) ^ 2 /(.8 \* 16712) = 55496. The 16712 is c6, the population of Hatfield township

GG: Summing up the number calculated by dd,ee,ff = 78998.59

HH: per each of the populace: 78998.59 (gg)/ 16712 (column c) = 4.72

II: =if(c6>=10000.”yes”,”no”) would yield a yes

Now, the state designates tonnage amounts in one decimal. Dollar amounts are in 2 decimal. Format your spreadsheet accordingly.

Let’s do some analysis by pivot tables. Calculate the average award per person (hh) for those townships with populations above 10000 and those below. Add to the row designations, the townships that are part of each (less than 1000, greater than 10000). In the end you should have something that looks like the right only with more info about the yes townships.

*This test is required back before the marking period for this term is over. Your Instructor will give you more info in class on Wednesday.*

*On the web site is 3 files, community arms.xls, bond movies.xlsx and recycling 2008.xlsx. Use these files to resolve these problems.*

*At minimum, you should be able to Email your completed files to* [*777rauer@voicenet.com*](mailto:777rauer@voicenet.com)*. You instructor will try to resolve something with voicenet to also handle these by anonymous FTP and this will be announced on the web site*