**Alternate Power Spread Sheets Assignment**

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When I was first deciding who I wanted to interview for this assignment, I was trying to decide who was in the best position to benefit from efficiency. It took me a while to figure it out but turns out it was the person I talk to every day, my mother. This is something that would apply extremely well to her line of work and I actually believe that it would help her out tremendously.

I never truly took the time to understand what my mom does for a living and this was actually the perfect opportunity for me to learn about it. She is currently the Administrative Secretary at the Contra Costa Water District in California. The Contra Costa Water District delivers safe, clean water to approximately 500,000 people in central and eastern Contra Costa County in Northern California. The water district was formed in 1936 to provide water for irrigation and industry. The District is working to protect the quality of its source water in the Delta and continues to improve its treatment processes and strengthen its distribution system while holding down rates. It is now one of the largest urban water districts in California and a leader in drinking-water treatment technology and source water protection.

Now when talking about the repetitive spreadsheet tasks that I discussed with my mom, it is very straightforward but definitely something that I believe I can help automate and make more efficient for her. It is listed below:

* A new sheet is opened,
* Renamed with the current date
* The previous day's information is copied and pasted into the current day
* The date at the top is updated
* The information is deleted (leaving the formulas)
* The formula at the bottom that shows the difference between today's count and the previous day's count and needs to update to take 298 subtracted by the days total
* The spreadsheet also tracks to ensure that all self-assessments have been received (each employee is required to perform a daily self-assessment as to their health). Managers need to know who can be called in (even if the employee is working at home) at any given time.

These repetitive tasks allow my mom to keep business professionals updated during this time of crisis and allows them to keep track of employee movements. It is extremely important and valuable to be able to know what employees are sick or working, and what they are doing with that time. I think we all know that working from home can get un-motivational at times and having information on employees makes things run smoother for any company, including this one.

The first part of this that needs to be tackled is adding a new sheet with a specific name attached to it when the macro is run. This video shows you how. <https://www.youtube.com/watch?v=902HXbcJ7F4>. The best way I believe to go about this is to record a macro starting on the already existing worksheet. Once this has been done, then go and name the new worksheet the current date.

The next part is to name that sheet with the current date so that every day it is opened, it automatically inserts the current date. <https://www.extendoffice.com/documents/excel/1871-excel-name-sheet-with-date.html>. You first need to create a dimension as a string. You next have to define that dimension to format the current date correctly so that when that this macro is utilized each day. It will add the next sheet with the title of date for that current day. The next part is to add the On Error GoTo statement which is explained here: <https://docs.microsoft.com/en-us/dotnet/visual-basic/language-reference/statements/on-error-statement>. Next the sheet is activated and the sub is exited. This does not mean that this sub procedure is ended, it means that this portion is exited, but still allows the procedure to continue without ending it. A further explanation is in the link: <https://docs.microsoft.com/en-us/office/vba/language/reference/user-interface-help/exit-statement>. Finally, the new sheet is added and the now active worksheet is named as the dimension that was defined in the code above.

After this, the previous day’s information is copied and pasted in the new spreadsheet that was opened. This video starting at 7:35 shows. <https://www.youtube.com/watch?v=8IreWUk1Al4>. This is done by simply recording another macro, or keep the recording going above. I found it most useful for me to record separate modules when working through to make sure that each module ran correctly before moving on to the next step. When recording the new Macro, copy the range of data from the previous day’s work sheet and paste in to cell A1 of the current days worksheet. I believe that the easiest way to go about this is to make sure that code specifies the data being copied is from the “active sheet”, as opposed to the name of the sheet. This will negate any error in copying when this macro is used on multiple occasions. While I could get away with using the name of the worksheet, since all of the data is going to be wiped eventually, it makes things cleaner in my opinion.

The date at the top of the of the sheet is now updated so this way the name of the sheet and heading of the sheet match to make sure there is no error. This is shown here. <https://www.youtube.com/watch?v=YI3WUxvSxB8>. This is simply done by inserting a formula into VBA that tells cell B1 to put the current date in. By having the current date both at the top of the page and as the name of the worksheet, it ensures that there is no miscommunication or error when recording information.

Next, the information that was copied over from the previous day into this new Excel sheet is now deleted. The tricky part about this is that while the information is deleted the formulas within the cells are kept. <https://www.youtube.com/watch?v=BCjfjxV4fWo>. This video does not exactly pertain to VBA but can be adapted to work within it. It is explained that to do this you must go to “Find & Select” on the Home Tab and then to Go To Special. The bullet constant is clicked and to even go further, numbers can be the only box clicked. When “Ok” is clicked the highlighting that was previously done, now shrinks to only select numbers without a formula on it. From this point, these numbers can be deleted and the cells with formulas will be left alone.

Next, the formula at the bottom of the sheet gets updated to reflect the difference between today’s count and yesterday’s count to ensure that the difference is noted. <https://www.youtube.com/watch?v=2n2qaT6KuH0>. To do this the formula that tally’s everything up must be adjusted. Instead of going through VBA for this adjustment, it is easier to just adjust the formula within the worksheet so that 298 (the number of employees that should be counted) is subtracted by the number in cell H20 which is the total number of staff working that day.

The last subroutine that was added is there for efficiency purposes. It is a call sub routine that I have put in to call each of the above subroutines in exact order that they were inputted. This allows my mom to simply run one subroutine and have everythings done in one single click, rather than having to run each subroutine separately.