

## Advanced Budget Project – Part A

A budget is probably the most important spreadsheet you can create. A good budget will keep you focused on your ultimate financial goal and help you avoid pitfalls like that adorable timeshare on Aruba. Budgets are surprisingly popular among rich people. You would think that wealthy people have so much money that they do not need a budget. But according to the book *The Millionaire Next Door* by Thomas J. Stanley and William D. Danko, most wealthy people in fact do have budgets, which may be part of the reason why they are rich in the first place.



In this project, we are going to set up not only a budget, but also a ledger to keep track of expenses and a budget report to show how our actual expenditures compared with our budget. This project presents an ideal case for taking advantage of some of the more advanced features of Excel.

### A. Set up a Budget

In this first part of our Advanced Budget Project, we are going to set up the actual budget. A budget is simply a plan, in this case a plan for getting and spending money. Like all plans, budgets do not fare extremely well when they come up against reality. But that may not entirely be the point. President and five-star general Dwight D. Eisenhower once said, “In preparing for battle I have always found that plans are useless, but planning is indispensable.”

Most budgets usually entail a whole year. To save space we are setting up a simple budget that covers only six months and a just handful of expense categories. For your own personal budgets, you can easily add additional months and categories to match your own needs.

#### Skills Used:

- AutoFill
- AutoSum
- Apply Cell Styles
- Modify Cell Styles
- Format as Table
- Absolute Cell References
- Goal Seek

#### Procedure:

##### Prepare the budget file:

- Open the file: [advbudget.xlsx](#)
- Go to the **Budget** sheet.

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	A	B	C	D	E	F	G	H	I
1	Allen Family Annual Budget - 2017								
2									
3	<b>Income</b>								
4	<b>Person</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Total</b>	<b>% of Total</b>
5	Rachael	2,600	2,600	2,600	2,600	2,600	2,600	15,600	59.1%
6	Jeremy	1,700	1,700	1,700	1,700	1,700	2,300	10,800	40.9%
7	<b>Total</b>	<b>4,300</b>	<b>4,300</b>	<b>4,300</b>	<b>4,300</b>	<b>4,300</b>	<b>4,900</b>	<b>26,400</b>	<b>100.0%</b>
8									
9	<b>Expenses</b>								
10	<b>Category</b>	<b>Jan</b>						<b>Total</b>	
11	Rent	2000	2000	2000	2000	2000	2000		
12	Auto Loan	300	300	300	300	300	300		
13	Utilities	250	250	250	200	150	150		
14	Groceries	900	900	900	1100	900	900		
15	TV	150	150	150	150	150	150		
16	Misc	250	250	400	500	200	400		
17									

As you can see, much of the budget is already done. I've included some sample categories and data, and you can easily substitute this material with your own categories and data.

To complete our budget, we will review some basic skills in Excel. One of the skills we will use is the formatted Excel table. Not only will this make our data look really nice, but it will also provide some additional depth will be very handy.

If you would prefer to skip these steps, go to **Part B: The Ledger**.

### Add the additional month names:

- Click the cell containing **Jan**.
- Locate the **Fill** handle at the lower right corner of the active cell.
- Drag the **Fill** handle to the right, across the five adjacent cells to fill in the subsequent months.


Expenses								
Category	Jan							Total
Rent	2000	2000	2000	2000	2000	2000	2000	
Auto Loan	300	300	300	300	300	300	300	

- Those five cells will be filled with the months **Feb** through **Jun**.

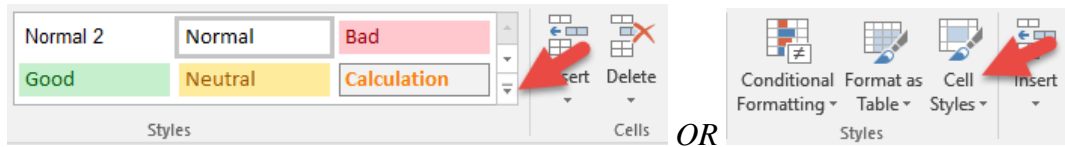
### Calculate the totals:

- Select all of the cells in the Total column by clicking in the middle of cell H11 and dragging down to cell H16.
- Click the **AutoSum** button on the right side of the **Home** tab.
- Sums will appear in the **Total** column.

### Format using cell styles:

- Click cell **A1**.
- In the **Home** tab, display the cell styles gallery by clicking the **More** button (  ) at the right of the **Styles** group. (On smaller screens, click the button **Cell Styles**.)

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- In the **Sale Styles** gallery, click **Title**.
- Click the cell containing the label **Expenses**.
- In the **Sale Styles** gallery, click **Heading 1**.
- Right-click the **Heading 1** Cell Style and change the format to **Italic**.

### Set the Expense budget range as a formatted Table:

A formatted Excel Table not only looks good, but it also has special powers that make certain tasks easier. Creating a Table is often very easy: Just click any cell in the table range. In this case, however, we have two rows of labels at the top. To keep Excel from being confused by this slightly complex structure, we will manually select the cells for the table.

- Click cell **A10** and drag to select the range **A10:H16**.
- Click: **Home > Format as Table**.
  - A gallery of table formats will appear.
- Choose a desirable format in the **Medium** group.
- To remove the unnecessary filter buttons in the column header cells, click the **Data** tab and then click the **Filter** button to toggle the filters off.
- Click the **Table Tools Design** tab, which appears whenever you select a cell in a formatted table.
- On the left side of the **Table Tools Design** tab, change the **Table Name** to **ExpBudget**.

### Add a Total Row to a Formatted Table

One of the several nice features of an Excel formatted table is the ability to create a total row.

- Click any cell in the expense budget table.
- Click the tab for **Table Tools Design**.
- Click the checkbox for **Total Row**.
- A new row will appear at the bottom of the budget with the label **Total**.
- Click the **Total** cell in the **Jan** column.
- A list button will appear at the right.
- Click the list button and choose **Sum**.
- A total will appear in the **Jan** column.
- Click the **Fill** button in the **Jan** Total cell and drag it to the right to fill the other cells in the Total row.
- Of course, now that we have our total expenses as well as our total income, we must calculate our Net Income.
- Click the **Jan** cell in the **Net Income** row.
- Type: =
- Click the cell containing the total income for **Jan**.
- Type: -
- Click this cell containing the total expenses for **Jan**.
- Press the **Enter** key.
- Use the **Fill** handle to copy this formula to the other cells in this row.

- Note that the formula we created referred to the names of the cells, rather than explicit references, such as **B7**. This is another benefit of using formatted Excel Tables.

### Add a column to calculate % of Total.

Although not usually necessary for a budget, it could be useful to see how the total of each category compares with the total of all expenses.

- Click cell **I10** (to the right of the cell that reads **Total**).
- Enter: **% of Total**
  - Note that a new formatted column appears. (Yet another benefit of, well, you know what.)
- Click cell **I11**.
- Type: **=**
- Click cell **H11**.
- Type: **/**
- Click cell **H17**
- Press Enter.
  - Note again that Excel used names for the selected cells in the formula.
  - Also note that the formula is automatically copied to the rest of the cells in the column — and we didn't have to use an absolute reference in the formula. Because Excel used named cells, and absolute reference was unnecessary.
- Select and format all the cells as percentages using the **%** button in the **Home** tab.
- Copy the Total in cell **H17** to cell **I17**.

### Insert a row for Savings.

We are going to add a new category for Savings for two reasons: First, it is always good to set aside some money for a rainy day. And second, watch how a formatted Excel Table handles insertions and absolute cell references.

- Right-click the row label **16** and choose Insert.
- Note that a new row appears and the banding adjusts automatically.
- In cell **A16** enter the label: **Savings**
- Create a formula in cell **B16** to calculate the savings amount based on the percentage in cell **A23** and the **Total Income** in cell **B7**:
  - **= \$A\$23 \* B7**
- Copy the formula to the cells for the other months (excluding columns **H** and **I**).
- If necessary, copy the formulas in cells **H15** and **I15** to the cells in row 16.

### Use Goal Seek to fine-tune the Savings amount:

We have arbitrarily set our savings target as 5% of our total income. What if we wanted to change that slightly so that our target savings rate would be 5% of total *expenses*? That would be a difficult calculation, requiring several trials and errors. But we can easily make this calculation using Excel's powerful **Goal Seek** tool.

- Select cell **I16**.
- Click the **Data** tab.
- Click the button: **What If Analysis**
- Click: **Goal Seek...**
- Click the box for **To value**:
- Type: **5%**

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- Click the box labeled: **By changing cell:**
- Type **A23**

Total	% of Total
12000	48.3%
1800	7.2%
1250	5.0%
5600	22.5%
900	3.6%
1320	5.3%
2000	8.0%
24870	100.0%

Set cell:	I16
To value:	5%
By changing cell:	A23
OK Cancel	

- Click **OK**
- Note that the cell **A23** changes to a value slightly lower than 5%.

That's it! Our budget is finished. The only thing left is to adjust all the number formats as desired. Speaking of numbers, be patient with me while we use these sample numbers and expense categories. When we are all finished, you can start again with your actual expense categories and amounts, and then you'll be on the way to Millionaire Land, or at least to some rational monetary management.

After you are finished, take a close look at your budget and compare it with the sheet **Budget 2**.

In the next part of the project, we will create a Ledger to keep track of our actual expenses.