

Intro to Excel

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This lesson is a short introduction to Excel. It won't make you an expert, but it's a start. We will open Excel software in Windows 95 and learn how to produce formulas that connect the cells in the spreadsheet.

PROBLEM: We will assume that we have borrowed \$1000.00 from a family member we'll call, for lack of a better name, "Mom", who is not going to charge us any interest. She wants us to pay back \$50.00 per month. All we want to do is to **compute the amount of money that we owe each month for the remaining period of the loan.**

Let's Make a Title.

To open Excel from the Windows 95 opening screen, click (with the left mouse button) the Start menu at the bottom of the screen, slide the pointer to Programs and over to Microsoft Excel. Click it. In a few seconds the Excel spreadsheet opens. Click on the cell in the upper left hand corner of the spreadsheet. Just above the spreadsheet on the entry line, you will see A1 indicating that the cell highlighted is in column A, and is in row 1. Let's begin by typing a title into that cell:

Type **First Try** and press [Enter]. Notice that as you type your letters appear in the cell and also on the *input line*, where it may be edited if you make a mistake. When you press [Enter], those letters remain in cell A1. Should you type more than will fit comfortably into one cell, Excel will overflow that cell into the cell to the right.

Entering Values in Cells

Now click the mouse on cell B2 and type into that cell **Amount of Loan**. Then highlight cell B3 and type into that cell, **1000.00**. With the cell B3 still highlighted move to the top of the screen where you find the \$ button. Click it. If ##### appears in cell B3, move your pointer to the dividing line between B and C at the top of your screen. You'll get a double arrow pointer. Drag the dividing line to the right to make column B wider. \$1000.00 will appear in cell B3.

Now highlight cell B5 and type **Monthly Payment**. Highlight cell B6 and type **50.00**. Enter, highlight it, and click the \$ button as before.

In cell D2 type the word **Month**, and in D3 the word **Number**. In cells E2 and E3, respectively, type the words **Beginning** and **Balance**. In F2 and F3, respectively, again type the words **Monthly** and **Payment**. In G2 and G3, type **Ending** and **Balance**.

Putting Formulas in Cells

In cell D4, enter the number **1**. Highlight cell D5. Type a + symbol to indicate that a formula is about to be placed in cell D5. The + will also appear in the input bar at the top of the screen. Click on cell D4 and the letters **D4** should appear in the input bar. Type **+1** and [Enter]. The value **2** should appear in cell D5. If you highlight D5 again, you'll notice that the input bar tells you that this "2" is the result of adding 1 to the contents of cell D4.

Copying Formulas to Other Cells ("Copy to Clipboard and Paste")

Cell D5 now actually contains a formula whose value is 2. It is the previous cell, D4, with 1 added to it. So let's copy the formula that is in cell D5 into subsequent cells below it. To do that, with cell D5 highlighted, click on the Copy icon just to the right of the Scissors or Cut icon on the top menu bar. That action copies the contents of cell D5 to the "clipboard". Drag the mouse over cells D6 through D14 to highlight a block of cells. Then click on the Paste icon (it's just to the right of the Copy icon). The numbers 3 through 11 should appear in the highlighted area. Now click on cell E4 under Beginning Balance and the highlight on the Month numbers should disappear. You have constructed a formula and replicated it through some of the cells of the column.

Copying a Constant (Absolute Address) in a Formula

Now let's use the formula procedure to copy the *constant* amount of the loan in cell B3 to the first cell under Beginning Balance. Here's how: With the mouse, select cell E4 (the first cell under Beginning Balance) . Type a + to indicate that you are about to enter a formula. Select cell B3 and **B3** should appear on the input line. To make B3 a constant or absolute address, press the *F4 function key at the top of the keyboard*. You should see \$ symbols magically appear on the input line. Press [Enter]. The number \$1000.00 should appear in the cell under Beginning Balance. If you get ##### again, stretch column E to the right as you did before.

Use the same (formula) approach to copy the Monthly Payment from cell B6 into the first cell under Monthly Payment. Remember to use the F4 function key as before to make B6 an absolute address. (If you don't press F4, Excel will think you want to copy the values in corresponding cells below B6 in the next step.) Highlight F5, type a + , click on cell F4, and enter to put the contents of F4 in F5.

Doing the Arithmetic

Now let's compute the first cell under Ending Balance. Select that cell (G4). Type a + to indicate that a formula is coming and click on cell E4, the first cell under Beginning Balance. (*Do not* make E4 an absolute address, because we will want to replicate this formula over the rest of the lines of the chart.) Type - (a minus sign) and click on cell F4 which is the cell of the first Monthly Payment. Press [Enter]. You have subtracted the monthly payment from the beginning balance, so the value \$950.00 should appear under Ending Balance.

To transfer the Ending Balance for Month One to the Beginning Balance for Month Two, highlight the Month Two Beginning Balance cell. Type a + to indicate a formula is coming. Then click on the cell G4 (the 950 that is in Month One Ending Balance). When you press [Enter], the value 950 will appear in Month Two Beginning Balance. Highlight cell G5 and put the formula E5 - F5 in it.

Copying a Block of Cells

Drag your mouse pointer over cells E5, F5 and G5. Copy them to the clipboard. Drag the pointer from cell E6 diagonally to cell G14 to highlight a block of cells. Click on the Edit menu at the top of the screen and choose Paste Special... Paste all with no operation by clicking O.K. You should now have your payment schedule for months 1 through 11. Verify that in month 11 the Beginning Balance is \$500.00, the Monthly Payment is \$50.00 and the Ending Balance is \$450.00. If you wish to complete the entire table for the duration of the loan, you can copy the contents of all cells on the Month Number 11 row into the corresponding block of cells down through spreadsheet row 23, using Edit|Paste Special... as before. (To highlight a block of cells, drag the mouse from the upper left corner to the lower right corner.) This will complete the entire table.

"Wouldn't This be Easier on a Calculator?"

Finally, let's see why we spent so much time copying with the formula approach. Select the Amount of Loan value (now \$1000.00) and change it to 2000.00. Then change the Monthly Payment value (on the left side of the spreadsheet) to 200.00. Note that all values are updated immediately. Try other values for Amount of Loan and Monthly Payment to see what happens. Don't forget to stretch your column widths if ##### appears.

ASSIGNMENT: You expect to put twenty dollars per week in a pickle jar for the next 12 weeks. Construct a spreadsheet that will compute the total amount of money in the jar for each week. The column headings should be

Week Number	Amount Deposited	Total Saved
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It should be constructed so that when *another* cell titled **AmtDeposited** is changed from \$20.00 to \$50.00, the whole spreadsheet immediately updates itself. (Notice that the cell **AmtDeposited** is not the same as the column **Amount Deposited**. Others working this activity have failed to follow instructions at this point.)

To save your spreadsheet on your own formatted disk in drive A:, select File|Save As and type **A:pickle** for the file name. Prepare to demonstrate your work on the computer in class.