

## Practicing KLM

In this exercise, you are going to predict the time it will take a user to perform some basic operations in Microsoft Word and Microsoft Excel.

Average Living Expenses for a Single Person	
Item	Monthly Cost
Housekeeping Supplies	\$30
Apparel	\$88
Food	\$315
Rent	\$871
Total	\$1,304

Figure 1: Living Expenses in Word

	A	B
1	Average Living Expenses for a Single Person	
2		
3	Item	Monthly Cost
4	Housekeeping Supplies	\$30
5	Apparel	\$88
6	Food	\$315
7	Rent	\$871
8	Total	\$1,304

Figure 2: Living Expenses in Excel

You will find 10 people that will complete the following objectives in both the Word and the Excel documents:

- Change the monthly Apparel cost from \$88 to \$50;
- Recalculate the Total living expenses;
- Make the last row of the table (the total row) boldfaced.

You will “train” each of the subjects on the strategy to make these changes using the instructions below. Make sure that the person is clearly aware of the steps they are about to take, but do not let them “practice.” In this way, you are providing them with the GOMS method, and you are also removing the time it would take for task acquisition.

1. **Estimate the execution time using KLM.**

You will need to decompose the task into all of its steps, selecting among the KLM Operators (K, B, P, H, D, M and R). Create a table of these steps and calculate the total time to perform the task.

2. **Conduct usability trials with 10 subjects.**

Per the instructions above, collect the time it takes each user to finish the objectives. Use a good stopwatch or other time keeping instrument.

3. **Analyze the results.**

- a. Were you able to correctly predict the execution times using KLM?
- b. If not, why do you think the estimates were incorrect?
- c. Did you use Fitt’s law to calculate Pointing times?  
What do you think the effect of using Fitt’s law in this case would be?
- d. Were your users using a mouse or a trackpad? Do you think it matters?
- e. Include any other salient observations.

### Instructions for Excel

There are many ways to accomplish these tasks, but this is the method you will utilize for the experiment.

1. Move the mouse to cell B5 and left-click.
2. Enter “50” (Excel will automatically recalculate the total.)
3. Highlight cells A8 and B8 and press the Bold button.

## Instructions for Word

There are many ways to accomplish these tasks, but this is the method you will utilize for the experiment.

1. Place the cursor after the “\$” and before the “8” corresponding to the \$88 Apparel costs.
2. Press the delete key twice, then type “50”.
3. Click on the total (\$1,304), then right-click and choose “Update field”. (This will recalculate.)
4. Highlight the last row of the table and press the Bold button.

Practice these operations yourself in both Word and Excel until you are fluent in them.

## Data Presentation

Present your predictive model in a table such as this example below.

Example: Double clicking on an application icon:

Steps	Operator	Time (sec)
1. Move hand to mouse	H[mouse]	0.40
2. Move cursor to icon	P[to icon]	1.10
3. Double click	2B[click]	0.40
4. Return to keyboard	H[kbd]	0.40
	<b>Total</b>	<b>2.30</b>

## Deliverables

- Your predictive model (see above for example);
- The results of your experiment;
- The answers to the analysis questions above.