INDEPENDENT PROJECT 6-6

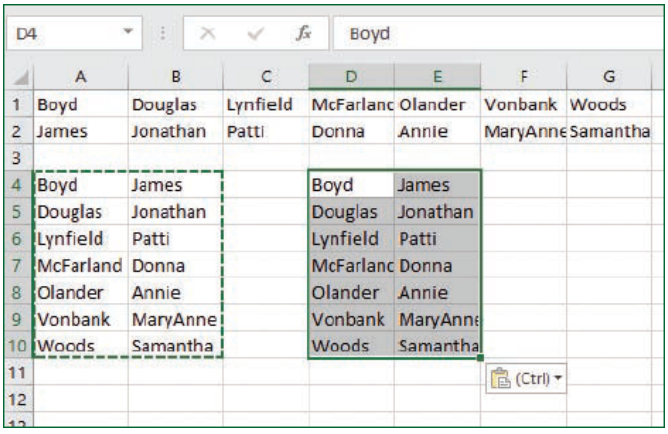
Clemenson Imaging LLC analyzes increased revenue from the purchase and use of CT scan equipment. You determine the number of patients and procedures by technician and location and transpose technician names.

Skills Covered in This Project

- Calculate the net present value of a purchase.
- Use TRANSPOSE to rearrange labels into a column.
- Concatenate cells to display names.
- Use SUMIFS to summarize data.
- Calculate procedure times.
- Format times with fractions.

Step 1: Download start file

1. Open the ***ClemensonImaging-06*** workbook and click the **Enable Editing** button. The file will be renamed automatically to include your name.
2. Determine the net present value of a new equipment purchase.
   a. Click the **Financials** sheet tab and select cell **H5**.
   b. Use **NPV** with a *Rate* argument of **4.25%**. For the *Value1* argument, select cells **D7:D13**. This is the same as entering each value argument separately.
   c. Edit the formula to add both investment costs (cells **D4** and **D5**) at the end of the formula.
3. Use *TRANSPOSE* to arrange technician names.
   a. Click the **Technicians** sheet tab. The names are in rows.
   b. Select cells **A4:A10**, seven rows in one column.
   c. Select **TRANSPOSE** from the *Lookup & Reference* category and select cells **A1:G1** for the *Array* argument.
   d. Press **Ctrl+Shift+Enter** to complete the array formula.
   e. Repeat the TRANSPOSE task to place the first names in cells **B4:B10**.
   f. Select cells **A4:B10** and copy them to the *Clipboard*.
   g. Select cell **D4**, click the arrow with the **Paste** button [*Home* tab, *Clipboard* group], and choose **Values** (Figure 6-110).

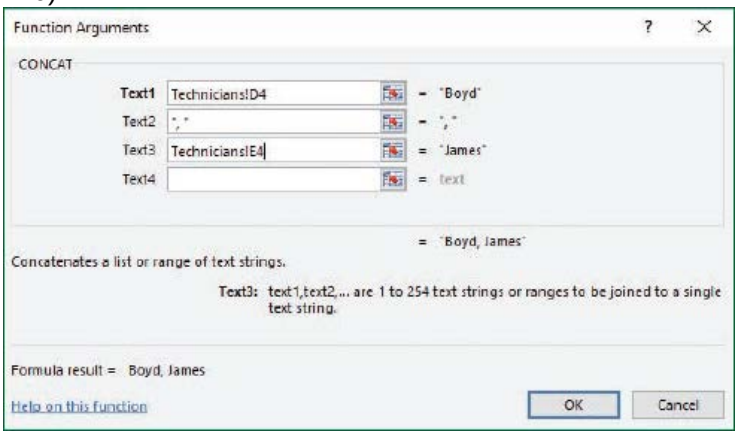


6-110 Transposed and copied data

4. Use *CONCAT* to display technician names.

   IMPORTANT: The *CONCAT* function is new for the 2016 version of Excel. If you are using *Excel 2013*, use the *CONCATENATE* function instead.

   a. Click the **Summary** sheet tab.
   b. Select cell **A5** and use *CONCAT* with cell **D4** on the **Technicians** sheet as the *Text1* argument.
   c. The *Text2* argument is a comma and a space.
   d. The *Text3* argument is cell **E4** on the **Technicians** sheet (Figure 6-111).



6-111 *CONCAT* with 3D references

   e. Copy the formula to display the remaining names and preserve the borders.

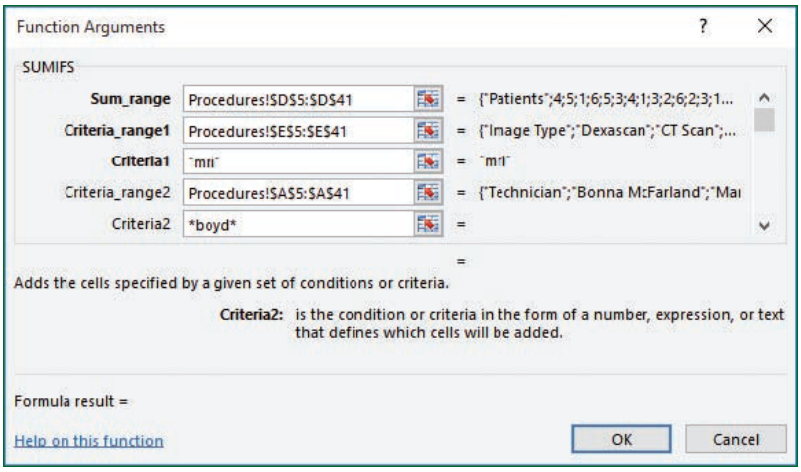
5. Use *SUMIFS* to total number of patients by procedure and technician.
   a. Click the **Procedures** tab and name cells **A5:F41** as **Data**.
   b. Click the **Summary** sheet tab and select cell **C5**.
   c. Use *SUMIFS* with an absolute reference to cells **D5:D41** on the **Procedures** sheet for the *Sum_range*. Since the range name includes the column label, you must include the label in each *CriteriaN* range.
   d. The first criteria range is an absolute reference to the image type column on the **Procedures** sheet. Its corresponding criteria is **mri**.
   e. The second criteria range is an absolute reference to the technician names column on the **Procedures** sheet.
   f. Type ***boyd*** for the *Criteria2* argument. This string means that any character(s) can precede or follow "boyd" (Figure 6-112).
6. Copy and edit the *SUMIFS* formula or start a new formula to complete data in cells **C6:C11**.
7. Use *SUMIFS* to total number of patients by category and location in cells **C14:C15**.
8. Look for and correct format inconsistencies.
9. Calculate procedure times.
   a. Click the **Times** sheet tab and select cell **F6**.
   b. Build a formula to subtract the start time from the end time and multiply those results by 24. The result is shown in hours.
   c. Copy the formula to row **41**.
   d. Select cells **F6:F41** and open the *Format Cells* dialog box. On the *Number* tab, choose **Fraction** with a *Type* of **Up to one** digit (Figure 6-113).
10. Save and close the workbook (Figure 6-114).

Step 2: Upload & Save

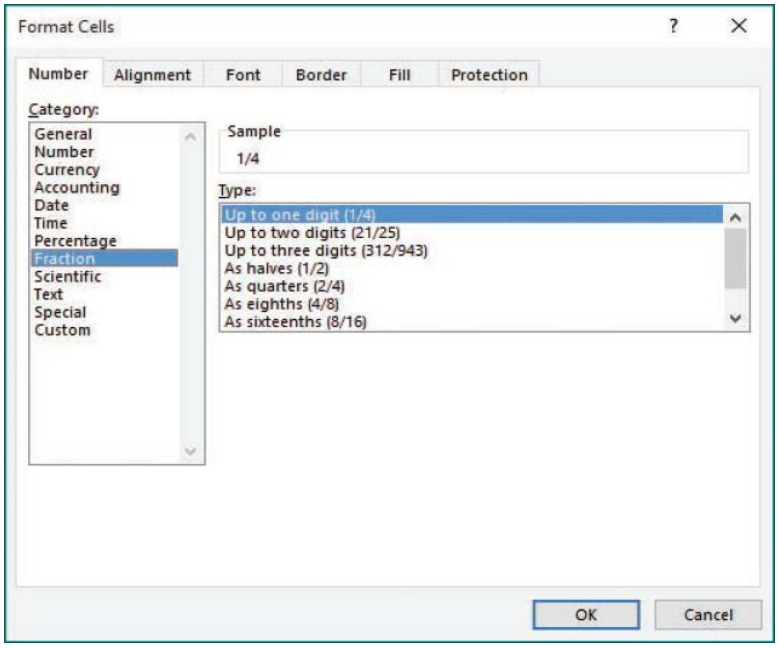
11. Upload and save your project file.

Step 3: Grade my Project

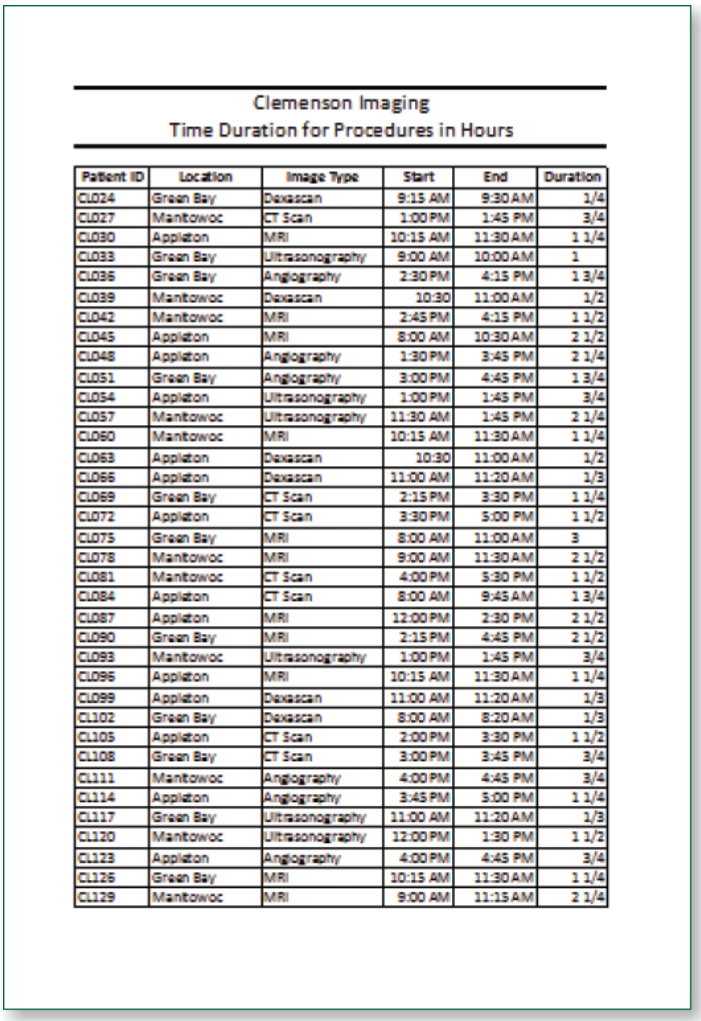
12. Submit project for grading.



6-112 Wildcard characters in the argument

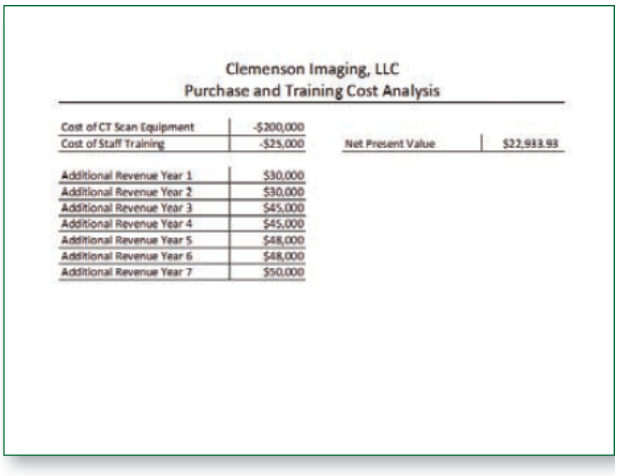


6-113 Time results formatted with fractions



Clemenson Imaging
Time Duration for Procedures in Hours

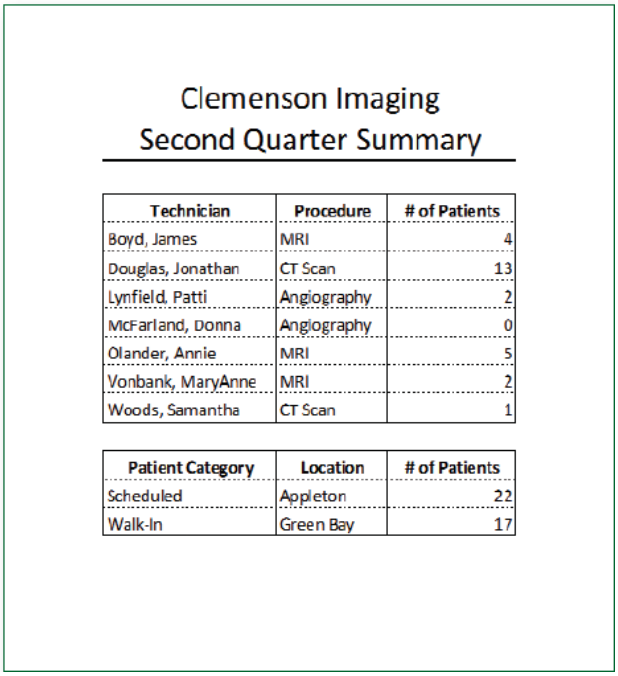
Patient ID	Location	Image Type	Start	End	Duration
CL024	Green Bay	Dexascan	9:15 AM	9:30 AM	1/4
CL027	Manitowoc	CT Scan	1:00 PM	1:45 PM	3/4
CL030	Appleton	MRI	10:15 AM	11:30 AM	1 1/4
CL033	Green Bay	Ultrasonography	9:00 AM	10:00 AM	1
CL036	Green Bay	Angiography	2:30 PM	4:15 PM	1 3/4
CL039	Manitowoc	Dexascan	10:30	11:00 AM	1/2
CL042	Manitowoc	MRI	2:45 PM	4:15 PM	1 1/2
CL045	Appleton	MRI	8:00 AM	10:30 AM	2 1/2
CL048	Appleton	Angiography	1:30 PM	3:45 PM	2 1/4
CL051	Green Bay	Angiography	3:00 PM	4:45 PM	1 3/4
CL054	Appleton	Ultrasonography	1:00 PM	1:45 PM	3/4
CL057	Manitowoc	Ultrasonography	11:30 AM	1:45 PM	2 1/4
CL060	Manitowoc	MRI	10:15 AM	11:30 AM	1 1/4
CL063	Appleton	Dexascan	10:30	11:00 AM	1/2
CL066	Appleton	Dexascan	11:00 AM	11:20 AM	1/3
CL069	Green Bay	CT Scan	2:15 PM	3:30 PM	1 1/4
CL072	Appleton	CT Scan	3:30 PM	5:00 PM	1 1/2
CL075	Green Bay	MRI	8:00 AM	11:00 AM	3
CL078	Manitowoc	MRI	9:00 AM	11:30 AM	2 1/2
CL081	Manitowoc	CT Scan	4:00 PM	5:30 PM	1 1/2
CL084	Appleton	CT Scan	8:00 AM	9:45 AM	1 3/4
CL087	Appleton	MRI	12:00 PM	2:30 PM	2 1/2
CL090	Green Bay	MRI	2:15 PM	4:45 PM	2 1/2
CL093	Manitowoc	Ultrasonography	1:00 PM	1:45 PM	3/4
CL096	Appleton	MRI	10:15 AM	11:30 AM	1 1/4
CL099	Appleton	Dexascan	11:00 AM	11:20 AM	1/3
CL102	Green Bay	Dexascan	8:00 AM	8:20 AM	1/3
CL105	Appleton	CT Scan	2:00 PM	3:30 PM	1 1/2
CL108	Green Bay	CT Scan	3:00 PM	3:45 PM	3/4
CL111	Manitowoc	Angiography	4:00 PM	4:45 PM	3/4
CL114	Appleton	Angiography	3:45 PM	5:00 PM	1 1/4
CL117	Green Bay	Ultrasonography	11:00 AM	11:20 AM	1/3
CL120	Manitowoc	Ultrasonography	12:00 PM	1:30 PM	1 1/2
CL123	Appleton	Angiography	4:00 PM	4:45 PM	3/4
CL126	Green Bay	MRI	10:15 AM	11:30 AM	1 1/4
CL129	Manitowoc	MRI	9:00 AM	11:15 AM	2 1/4



Clemenson Imaging, LLC
Purchase and Training Cost Analysis

Cost of CT Scan Equipment	-$200,000
Cost of Staff Training	-$25,000
Additional Revenue Year 1	$30,000
Additional Revenue Year 2	$30,000
Additional Revenue Year 3	$45,000
Additional Revenue Year 4	$45,000
Additional Revenue Year 5	$48,000
Additional Revenue Year 6	$48,000
Additional Revenue Year 7	$50,000

Net Present Value	$22,933.93



Clemenson Imaging
Second Quarter Summary

Technician	Procedure	# of Patients
Boyd, James	MRI	4
Douglas, Jonathan	CT Scan	13
Lynfield, Patti	Angiography	2
McFarland, Donna	Angiography	0
Olander, Annie	MRI	5
Vonbank, MaryAnne	MRI	2
Woods, Samantha	CT Scan	1

Patient Category	Location	# of Patients
Scheduled	Appleton	22
Walk-In	Green Bay	17

6-114 Completed worksheets for Excel 6-6