

Independent Project 6-5

Classic Gardens and Landscapes counts responses to mail promotions to determine effectiveness. You use SUMIFS and a nested IF formula to complete the summary. You also calculate insurance statistics and convert birth dates from text to dates.

Skills Covered in This Project

- Nest MATCH and INDEX functions.
- Create DSUM formulas.
- Build an IFS function.
- Build SUMIFS formulas.
- Use DATEVALUE to convert text to dates.

Step 1 Download start file

1. Open the **ClassicGardens-06** start file. Click the **Enable Editing** button. The file will be renamed automatically to include your name. Change the **project file** name if directed to do so by your instructor, and **save** it.
2. Create a nested **INDEX** and **MATCH** function to display the number of responses from a city.
 - a. Click the **Mailings** sheet tab and select and name cells **A3:D28** as **Responses**
 - b. Click the **Mailing Stats** sheet tab.
 - c. Click cell **B21** and type **Carthage**.
 - d. Click cell **C21**, start an **INDEX** function, and select the first argument list option.
 - e. Choose the **Responses** range for the Array argument.
 - f. Click the **Row_num** box and nest a **MATCH** function. Select cell **B21** for the Lookup_value and cells **A3:A28** on the **Mailings** sheet for the Lookup_array. Click the **Match_type** argument box and type **0**.
 - g. Click **INDEX** in the *Formula* bar. Click the **Column_num** box and nest a second **MATCH** function to look up cell **D3** on the **Mailings** sheet in the lookup array **A3:D3**.
 - h. Click the **Match_type** box and type **0** (Figure 6-105).

The screenshot shows the 'Mailings' sheet in Excel. The sheet has columns A through K and rows 1 through 28. The data is organized into sections: a header section (rows 1-5), a table of mailings (rows 6-10), a 'Response Rate Determination' table (rows 14-18), and a 'City' table (rows 20-21). The 'City' table has columns 'City' and '# of Responses'. Cell B21 contains 'Carthage'. Cell C21 contains the formula '=INDEX(Mailings!A3:D28,MATCH(B21,Mailings!A3:A28,0),MATCH(D3,Mailings!D3:D28,0))'. The 'Function Arguments' dialog box for the MATCH function is open, showing the following arguments: Lookup_value: Mailings!D3, Lookup_array: Mailings!A3:A28, Match_type: 0. The dialog box also shows the formula result as 4.

Department/Group	Total Sent	Total Responses	Response Rate
Landscape Design			
Lawn & Maintenance			
Patio & Furniture			
Total			

Response Rate Determination	
20% and above	Excellent
15% and above	Very Good
10% and above	Good
Below 10%	Average

City	# of Responses
Carthage	=INDEX(Mailings!A3:D28,MATCH(B21,Mailings!A3:A28,0),MATCH(D3,Mailings!D3:D28,0))

6-105 Nested MATCH and INDEX functions

- i. Format the results to show zero decimal places.
- j. Type **Smyrna** in cell **B21**.

3. Use **DSUM** to summarize mailing data.
 - a. On the **Mailings** sheet, note that number sent is located in the third column and response data is in the fourth column.
 - b. Click the **Criteria** sheet tab. Select cell **B2** and type **lan*** to select data for the Landscape Design department.
 - c. Click the **Mailing Stats** sheet tab and select cell **B7**.
 - d. Use **DSUM** with the range name **Responses** as the Database argument. Type **3** for the *Field* argument, and use an absolute reference to cells **B1:B2** on the **Criteria** sheet as the *Criteria* argument.
 - e. Copy the formula to cell **C7** and edit the *Field* argument to use the fourth column.
 - f. Complete criteria for the two remaining departments on the **Criteria** sheet.
 - g. Click the **Mailing Stats** sheet tab and select cell **B8**.
 - h. Use **DSUM** in cells **B8:C9** to calculate results for the two departments.
4. Use **SUM** in cells **B10:C10**.
5. Format all values as **Comma Style** with no decimal places.
6. Create an **IFS** function to display a response rating.

IMPORTANT: If you are using a version of **Excel** that does not include the **IFS** function, create a formula using nested **IF** functions instead where each *Value_if_false* argument is the next IF statement. The innermost nested IF statement should have a *Logical_test* argument of **C7/B7<10%**, *Value_if_true* argument of **\$C\$18**, and *Value_if_false* argument of 0.

- a. Click cell **D7**. The response rate and ratings are shown in rows 14:18.
- b. Start an **IFS** function and select **C7** for the *Logical_test1* argument. Type **/** for division and select cell **B7**. Type **>= 20%** to complete the test.
- c. Click the **Value_if_true1** box, select **C15**, and press **F4 (FN+F4)** (Figure 6-106).

The screenshot shows an Excel spreadsheet titled "Classic Gardens and Landscapes Third Quarter Mailings". The spreadsheet has columns A through K and rows 1 through 24. The data is organized into several sections:

- Header Section (Rows 1-5):** Contains the title "Classic Gardens and Landscapes" and "Third Quarter Mailings".
- Summary Table (Rows 6-10):**

Department/Group	Total Sent	Total Responses	Response Rate
Landscape Design	11,555	2,824	B7>=20%,C\$15
Lawn & Maintenance	22,078	2,847	
Patio & Furniture	14,790	3,591	
Total	48,423	9,262	
- Response Rate Determination Table (Rows 14-18):**

Response Rate Determination	
20% and above	Excellent
15% and above	Very Good
10% and above	Good
Below 10%	Average
- City and Responses Table (Rows 20-22):**

City	# of Responses
Smyrna	300

The **Function Arguments** dialog box for the **IFS** function is open, showing the following arguments:

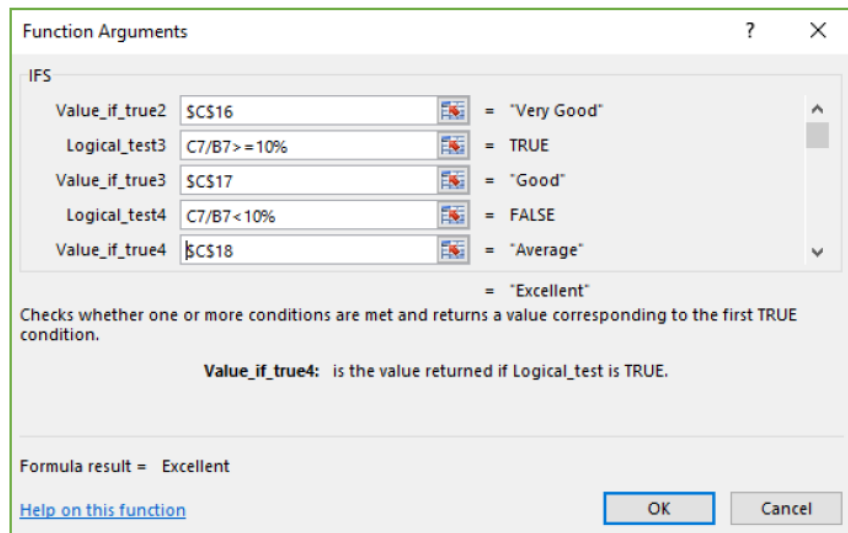
- Logical_test1:** C7/B7>=20%
- Value_if_true1:** \$C\$15
- Logical_test2:** (empty)

The dialog box also includes a description of the IFS function and buttons for **OK** and **Cancel**.

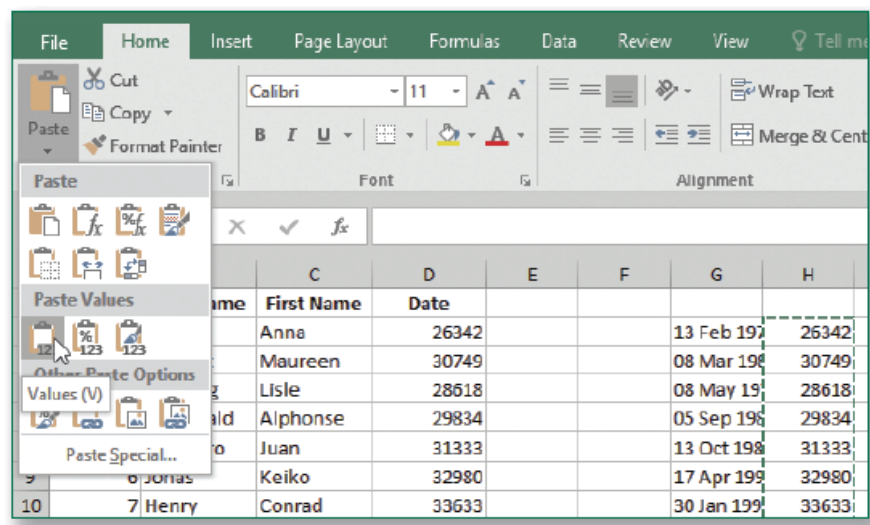
6-106 First logical test and value_if_true arguments

- d. Click the **Logical_test2** box, select **C7**, type **/**, select cell **B7**, and type **>=15%**
- e. Click the **Value_if_true2** box, click cell **C16**, and press **F4 (FN+F4)**.

- f. Complete the third and fourth logical tests and *value_if_true* arguments (Figure 6-107).
 - g. Copy the formula in cell **D7** to cells **D8:D10**.
7. Use *SUMIFS* to total insurance claims and dependents by city and department.
- a. Click the **Employee Insurance** sheet tab and select cell **E25**.
 - b. Use *SUMIFS* with an absolute reference to cells **F4:F23** as the *Sum_range* argument.
 - c. The *Criteria_range1* argument is an absolute reference to cells **E4:E23** with *Criteria1* that will select the city of Brentwood.
 - d. The *Criteria_range2* argument is an absolute reference to the department column with criteria that will select the Landscape Design department.
 - e. Complete *SUMIFS* formulas for cells **E26:E28**. Use the first three letters for the criteria.
 - f. Format borders to remove inconsistencies, if any, and adjust column widths to display data.
8. Use *DATEVALUE* to convert text data to dates.
- a. Click the **Birth Dates** sheet tab and select cell **D4**. The dates were imported as text and cannot be used in date arithmetic.
 - b. Select cells **D4:D23** and cut/paste them to cells **G4:G23**.
 - c. Select cell **H4** and use *DATEVALUE* to convert the date in cell **G4** to a serial number.
 - d. Copy the formula to cells **H5:H23**.
 - e. Select cells **H4:H23** and copy them to the *Clipboard*.
 - f. Select cell **D4**, click the arrow with the **Paste** button [*Home* tab, *Clipboard* group], and choose **Values** (Figure 6-108).
 - g. Format the values in column **D** to use the **Short Date** format.
 - h. Hide columns **G:H**.
 - i. Apply **All Borders** to the data and make columns **B:D** each **13.57** wide.



6-107 Completed IFS function arguments



6-108 Only values are pasted

Step 2

Upload &
Save

9. Save and close the workbook (Figure 6-109).

10. Upload and save your project file.

Step 3

Grade my
Project

11. Submit project for grading.

Classic Gardens and Landscapes Third Quarter Mailings			
Department/Group	Total Sent	Total Responses	Response Rate
Landscape Design	11,555	2,824	Excellent
Lawn & Maintenance	22,078	2,847	Good
Patio & Furniture	14,790	3,591	Excellent
Total	48,423	9,262	Very Good

Response Rate Determination	
20% and above	Excellent
15% and above	Very Good
10% and above	Good
Below 10%	Average

City	# of Responses
Smyrna	300

Classic Gardens and Landscape (CGL) Employee Birth Dates			
ID #	Last Name	First Name	Date
1	Conrad	Anna	2/13/1972
2	Stewart	Maureen	3/8/1984
3	Ladewig	Lisle	5/8/1978
4	McDonald	Alphonse	9/5/1981
5	Meandro	Juan	10/13/1985
6	Jonas	Keiko	4/17/1990
7	Henry	Conrad	1/30/1992
8	Easom	Nassar	7/18/1991
9	Ohlberg	Sarah	9/15/1987
10	Artagnan	George	3/21/1988
11	Calvert	Maria	6/16/1976
12	Alvarez	Beryl	11/21/1994
14	Johnson	Burton	12/8/1990
15	Alvarez	José	10/4/1989
16	Pawlowski	Jerry	11/5/1989
17	Lopez	Anita	2/21/1991
18	Gaylord	David	3/14/1992
19	Yager	Bobbi	8/8/1994
20	Hughes	Delores	12/6/1990
21	Svenson	Imre	2/28/1975

Classic Gardens and Landscape (CGL) Dependent and Claim Information						
ID #	Last Name	First Name	Department	City	# of Dependents	# of Claims
17	Lopez	Anita	Lawn & Maintenance	Brentwood	4	3
5	Meandro	Juan	Patio & Furniture	Springfield	2	2
8	Easom	Nassar	Lawn & Maintenance	Forest Hills	1	1
11	Calvert	Maria	Landscape Design	Gallatin	0	0
14	Johnson	Burton	Patio & Furniture	Forest Hills	3	4
16	Pawlowski	Jerry	Landscape Design	Brentwood	4	3
21	Svenson	Imre	Patio & Furniture	Brentwood	3	1
3	Ladewig	Lisle	Lawn & Maintenance	Forest Hills	5	1
4	McDonald	Alphonse	Human Resources	Brentwood	1	1
12	Alvarez	Beryl	Human Resources	Springfield	2	0
19	Yager	Bobbi	Patio & Furniture	Brentwood	3	2
20	Hughes	Delores	Human Resources	Gallatin	4	2
2	Stewart	Maureen	Human Resources	Springfield	2	0
6	Jonas	Keiko	Patio & Furniture	Gallatin	1	0
10	Artagnan	George	Landscape Design	Gallatin	2	4
15	Alvarez	José	Landscape Design	Brentwood	3	5
18	Gaylord	David	Patio & Furniture	Forest Hills	4	2
7	Henry	Conrad	Patio & Furniture	Brentwood	2	1
9	Ohlberg	Sarah	Landscape Design	Brentwood	3	1
1	Conrad	Anna	Lawn & Maintenance	Brentwood	1	2

# of Dependents, Brentwood, Landscape	10
# of Dependents, Springfield, Human Resources	4
# of Claims, Forest Hills, Patio	6
# of Claims, Gallatin, Lawn & Maintenance	0

6-109 Completed worksheets for Excel 6-5