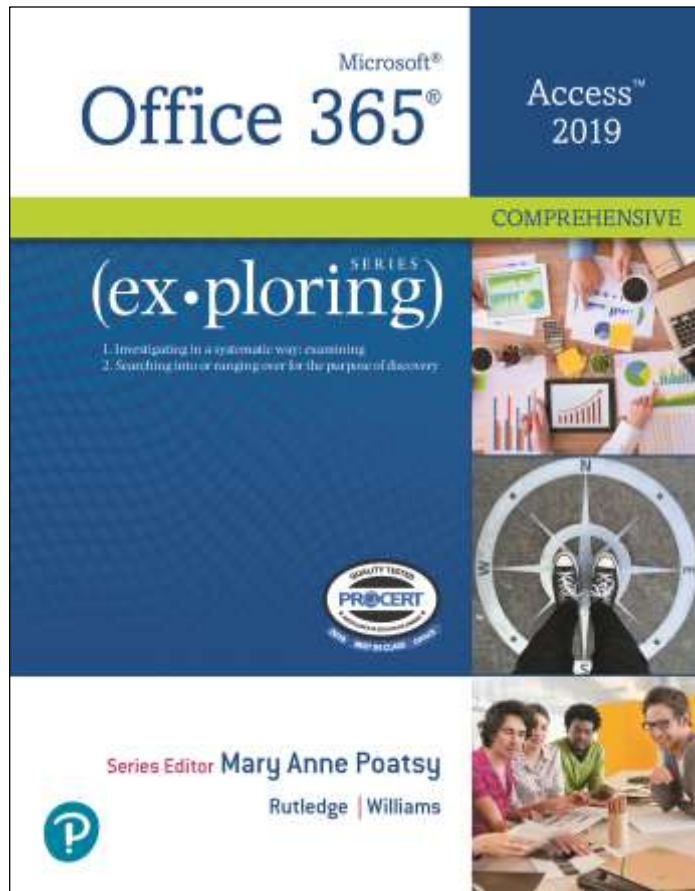


Microsoft® Office 365® Access™ 2019 Comprehensive



Chapter 5

Data Validation and Data Analysis

Learning Objectives

5.1 Establish Data Validation

5.2 Control the Format of Data Entry

5.3 Control Input with a Lookup Field

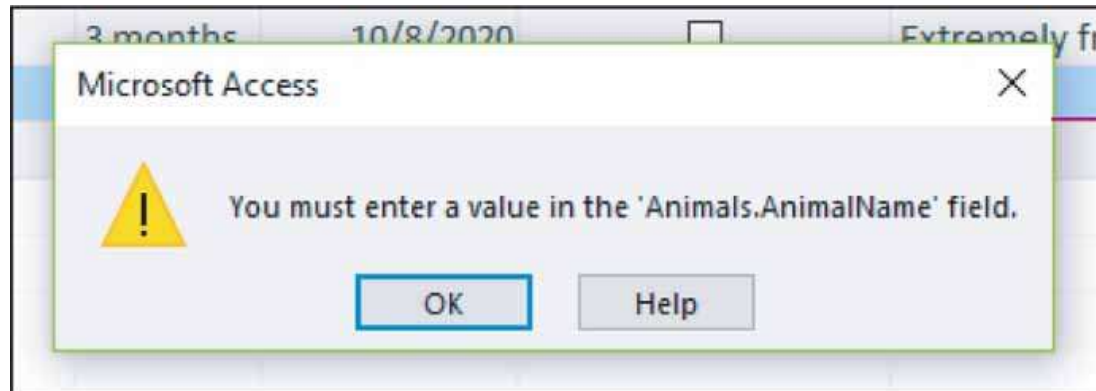
5.4 Customize Output Based on User Input

5.5 Use Advanced Functions

Establishing Data Validation (1 of 3)

General		Lookup
Field Size	30	
Format		
Input Mask		
Caption		
Default Value		
Validation Rule		
Validation Text		
Required	Yes	
Allow Zero Length	Yes	
Indexed	No	
Unicode Compression	Yes	
IME Mode	No Control	
IME Sentence Mode	None	
Text Align	General	

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Establishing Data Validation (2 of 3)

Field Properties

General		Lookup
Field Size	15	
Format		
Input Mask		
Caption		
Default Value	Cat	...
Validation Rule		
Validation Text		
Required	No	
Allow Zero Length	Yes	
Indexed	No	
Unicode Compression	Yes	
IME Mode	No Control	
IME Sentence Mode	None	
Text Align	General	

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Establishing Data Validation (3 of 3)

Validation Rule property

Validation Text property

Field Properties	
General	
Format	Currency
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	<=50
Validation Text	The maximum adoption fee is \$50. Please double-check the adoption fee.
Required	No
Indexed	No
Text Align	General

Validation rule setting

Validation text setting

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Validation text

Entered	Notes	Weight	AdoptionFee	Add
		2.12	55	
	White	12.04	\$15.00	
	Black with white boots	12.45	\$25.00	

Microsoft Access

! The maximum adoption fee is \$50. Please double-check the adoption fee.

OK Help

Incorrect AdoptionFee entered

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Controlling the Format of Data Entry

(1 of 3)

Field	Example Data with Mask Applied	Input Mask Property Field Code
Social Security Number	555-55-5555	000\00\0000;0;;
Phone Number	(555) 555-1234	!(999") "000\0000;;_
ZIP Code	00000-9999	00000\9999;0;_
Password	*****	Password
Date (various date types available; short date shown in example)	___/___/____	99/99/0000;0;

Controlling the Format of Data Entry

(2 of 3)

Input masks

Input Mask Wizard

Which input mask matches how you want data to look?

To see how a selected mask works, use the Try It box.

To change the Input Mask list, click the Edit List button.

Input Mask:	Data Look:
Phone Number	(206) 555-1212
Social Security Number	831-86-7180
Zip Code	98052-6399
Extension	63215
Password	*****
Long Time	1:12:00 PM

Try It:

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Controlling the Format of Data Entry

(3 of 3)

Weight	AdoptionFee	Adopted	OwnerName	OwnerPhone	DateOfAdoption	Click to Add
2.12	\$20.00	☒	Barbara Stevens	() -	5/5/2020	
12.04	\$15.00	☒	Veronica Chandler	(555) 670-2423	3/10/2020	
12.58	\$10.00	☒	Terri Gonzalez	(555) 492-5550	8/8/2020	
12.93	\$50.00	☒	Jigisha Bhalla	(555) 454-9264	6/11/2020	

Input mask defines input format

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Adopted	Yes/No
OwnerName	Short Text
OwnerPhone	Short Text
DateOfAdoption	Date/Time

Field Properties	
General	Lookup
Field Size	255
Format	
Input Mask	!(999) 000-0000;_
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	Yes
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

Phone number input mask

Ellipsis to launch Lookup wizard

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Controlling Input with a Lookup Field

Available options

▼	AnimalName ▼	AnimalType ▼	Gender ▼	Age ▼
1	Leslie	Bird ▼	Female	1 year
2	Edward	Bird	Male	2 year
3	Yolanda	Cat	Female	6 weeks
4	Sully	Dog	Female	5 years
5	Emily	Rabbit	Female	1 year
6	Susan	Cat	Female	3 year
7	Mark	Cat	Male	6 weeks
8	Tipsy	Cat	Female	1 year
9	Christopher	Cat	Male	2 years

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Customizing Output Based on User Input

The screenshot shows a software interface titled "Find Animal Type". On the left, a list box labeled "Animals" contains the following items: ID, AnimalName, AnimalType, Gender, and Age. In the center, a modal dialog box titled "Enter Parameter Value" is open, with a subtitle "Enter Animal Type". It features a text input field and "OK" and "Cancel" buttons. A callout bubble points to the input field with the text "Prompt displays when query is run". At the bottom of the window is a table with 8 columns: Field, Table, Sort, Show, Criteria, or, and Notes. The "Field" column lists "AnimalName", "AnimalType", "Gender", "Age", "DateFound", "Spayed/Neutered", and "Notes". The "Table" column lists "Animals" for each field. The "Show" column has checkboxes, all of which are checked. The "Criteria" column contains "[Enter Animal Type]" for the "AnimalType" row. A callout bubble points to this cell with the text "Criterion added for parameter query".

Field:	AnimalName	AnimalType	Gender	Age	DateFound	Spayed/Neutered	Notes
Table:	Animals	Animals	Animals	Animals	Animals	Animals	Animals
Sort:							
Show:	☒	☒	☒	☒	☒	☒	☒
Criteria:		[Enter Animal Type]					
or:							

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Using Advanced Functions (1 of 8)

- Date Function

Date()

- Round Function

Round(<<number>>, <<precision>>)

- If Function

If(<<expression>>, <<>truepart>>, <<>falsepart>>)

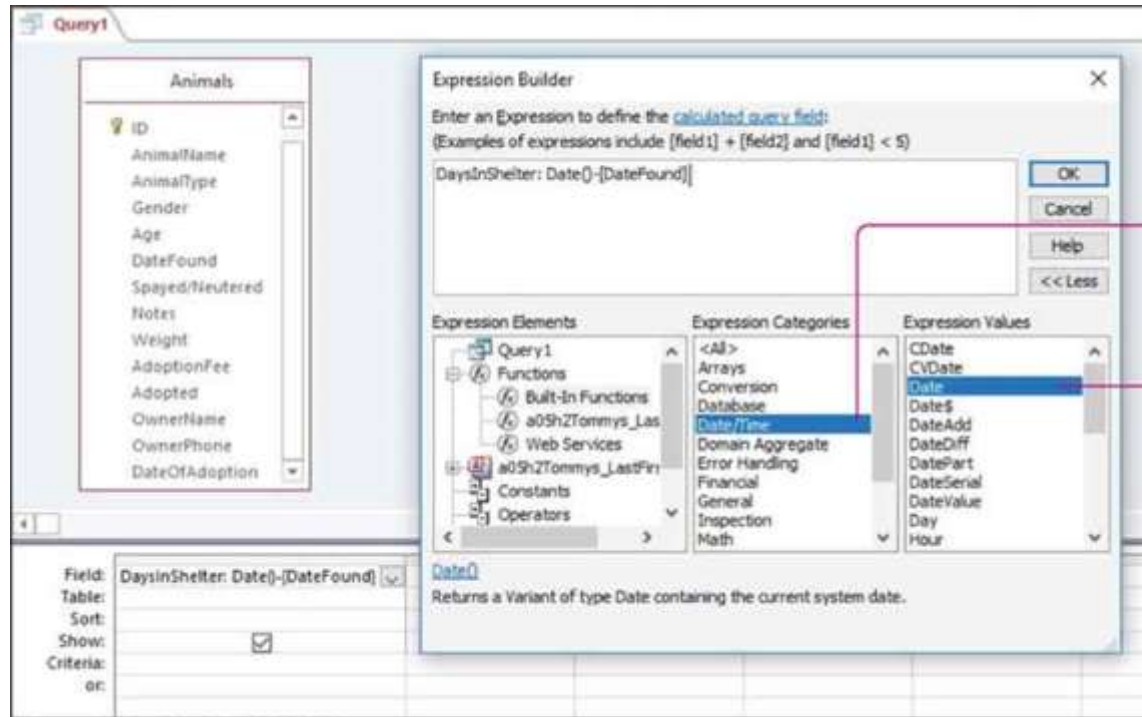
- IsNull Function

IsNull(<<expression>>)

- DatePart Function

DatePart(«interval», «date», «firstdayofweek», «firstweekofyear»)

Using Advanced Functions (2 of 8)



Date/Time selected from
Expression Categories

Date selected from
Expression Values

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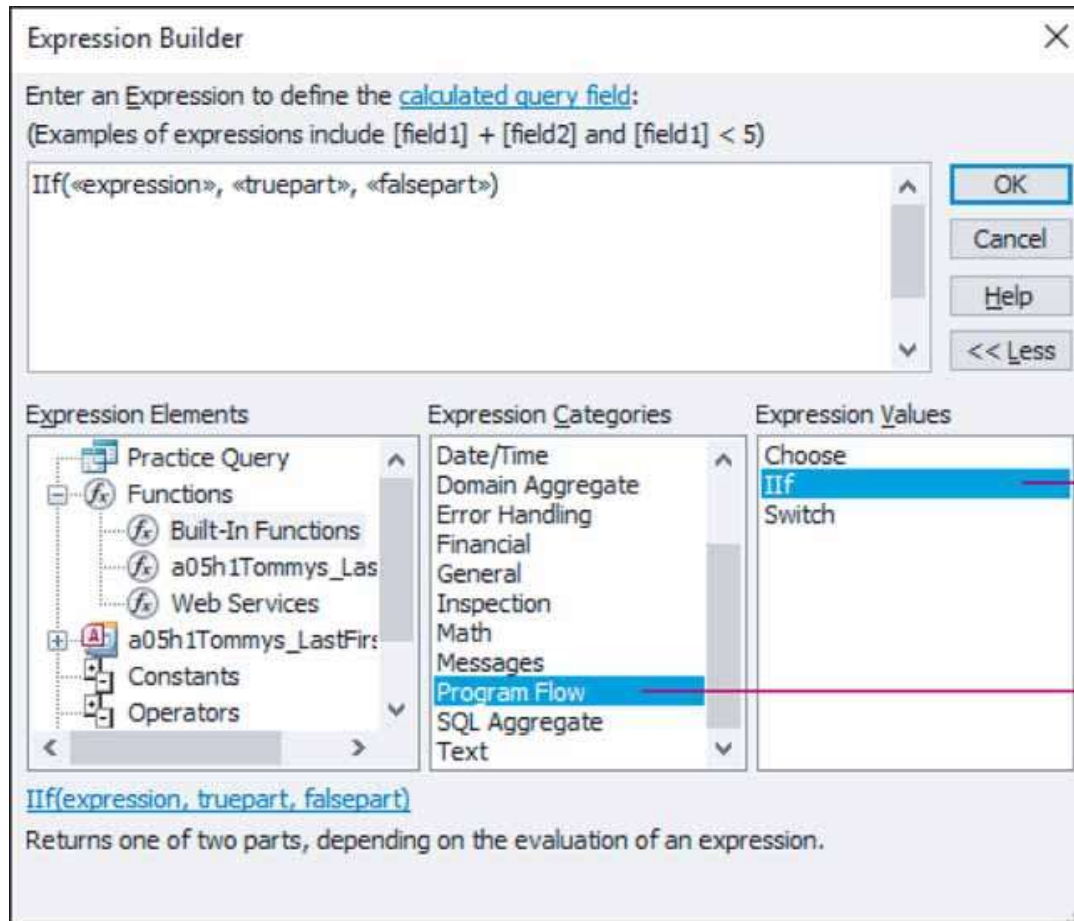
Using Advanced Functions (3 of 8)

Field:	AnimalName	AnimalType	Age	DateFound	Notes	Weight	Round([Weight],1)
Table:	Animals	Animals	Animals	Animals	Animals	Animals	
Sort:							
Show:	☒	☒	☒	☒	☒	☒	☒
Criteria:							
or:							

Round function

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Using Advanced Functions (4 of 8)



Iif selected from
Expression Values

Program Flow selected from
Expression Categories

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Using Advanced Functions (5 of 8)

Expression Builder

Enter an Expression to define the calculated query field:
(Examples of expressions include [field1] + [field2] and [field1] < 5)

If function: `IF(Date()-DateOfAdoption<=30,"Recently Adopted","Adopted")`

OK Cancel Help << Less

Expression Elements

- Practice Query
- Functions
- ae05h1Tommys_LastFirst.a
- Constants
- Operators
- Common Expressions

Expression Categories

<Parameters>

Expression Values

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Recently Adopted		
AnimalName	DateOfAdoption	Status
Leslie	5/5/2020	Adopted
Edward	3/10/2020	Adopted
Yolanda	8/8/2020	Adopted
Sully	6/11/2020	Adopted
Susan	6/14/2020	Adopted
Tipsy	6/7/2020	Adopted
Christopher	10/22/2020	Adopted
Stephanie	4/16/2020	Adopted
Lee	4/1/2020	Adopted
Marcus	6/9/2020	Adopted
Judy	11/20/2021	Recently Adopted
Rachel	12/20/2021	Recently Adopted
Linda	11/14/2021	Adopted
Stephanie	10/31/2020	Adopted
Stephen	2/5/2020	Adopted
Pearl	8/18/2020	Adopted
Rosemary	6/13/2020	Adopted
Keith	3/25/2020	Adopted
Annie	5/19/2020	Adopted
Chris	5/7/2020	Adopted
Sue	6/12/2020	Adopted
Campeon	6/7/2020	Adopted
Carolyn	3/5/2020	Adopted
Eddie	4/15/2020	Adopted
Kimberly	4/18/2020	Adopted

Record: 12 of 61 No Filter Search

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Pet adopted in last 30 days listed as Recently Adopted

Using Advanced Functions (6 of 8)

Animal Adoptions

Animals

- ID
- AnimalName
- AnimalType
- Gender
- Age
- DateFound
- Spayed/Neutered
- Notes
- Weight
- AdoptionFee
- Adopted
- OwnerName
- OwnerPhone

IsAdopted field

Expression Builder

Enter an Expression to define the calculated query field:
(Examples of expressions include [field1] + [field2] and [field1] < 5)

IsAdopted: IsNull([DateOfAdoption])

Expression Elements

- Animal Adoptions
- Functions
 - Built-In Functions
 - a05h2Tommys_LastFirs
 - Web Services
 - a05h2Tommys_LastFirst.a
- Constants
- Operators
- Common Expressions

Expression Categories

- <All>
- Arrays
- Conversion
- Database
- Date/Time
- Domain Aggregate
- Error Handling
- Financial
- General
- Inspection
- Math

Expression Values

- IsArray
- IsDate
- IsEmpty
- IsError
- IsMissing
- IsNull
- IsNumeric
- IsObject
- TypeName
- VarType

IsNull(expression)

Returns a Boolean value indicating whether an expression contains no valid data (Null).

Field: IsAdopted: IsNull([DateOfAdoption])

Table:

Sort:

Show: ☒

Criteria: 0

or:

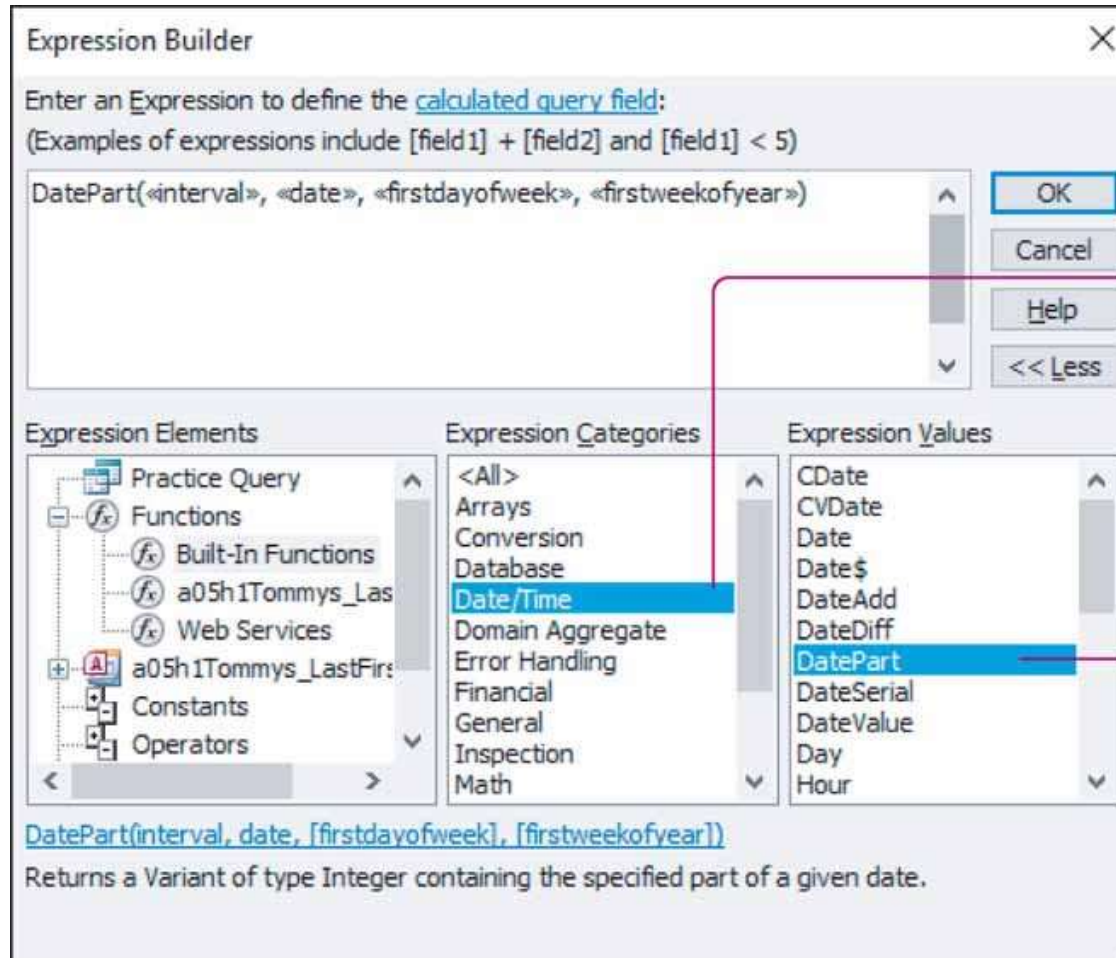
Criteria of 0 (displays results with values in DateOfAdoption)

IsNull selected from Expression Values

Inspection selected from Expression Categories

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Using Advanced Functions (7 of 8)



Date/Time selected from Expression Categories

DatePart selected from Expression Values

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Using Advanced Functions (8 of 8)

Interval Argument	Explanation
"yyy"	Year
"m"	Month (displays a number 1 through 12, 1 represents January)
"d"	Day (displays a number, 1 through 366, representing the day of the year)
"w"	Day of the Week (displays a number 1 through 7, 1 represents Sunday)
"h"	Hour
"n"	Minute

Function Portion	Resulting Value	Explanation
DatePart("yyy", HireDate)	2020	August 31, 2020, has a year of 2020.
DatePart("m", HireDate)	8	August is the eighth month of the year.
DatePart("w", HireDate)	2	August 31, 2020, is a Monday (the second day of the week)..

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