

# Week 7 - Lab 2: Crosstab queries and Custom Calculations

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# Overview

- In this tutorial, we will learn how to create:
  - Crosstab Queries
  - Custom Calculations

# Crosstab Queries


- These are queries that display information in a compact spreadsheet-like format

Microsoft Access ribbon: Create, External Data, Database Tools. Groups include: SharePoint Lists, Table Design, Forms (Form, Split Form, Multiple Items, More Forms, Form Design), Reports (Report, Labels, Blank Report, Report Wizard, Report Design), Query Wizard, Query Design, Other.

Warning: Certain content in the database has been disabled. Options...

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eSkills

### New Query



This wizard creates a crosstab query that displays data in a compact, spreadsheet-like format.

- Simple Query Wizard
- Crosstab Query Wizard**
- Find Duplicates Query Wizard
- Find Unmatched Query Wizard

OK Cancel

# Crosstab Queries

Crosstab Query Wizard

Which table or query contains the fields you want for the crosstab query results?

To include fields from more than one table, create a query containing all the fields you need and then use this query to make the crosstab query.

Table: bktblAuthors  
Table: bktblPublishers  
Table: bktblTitles  
Table: tblDatabaseSkills

View

Tables  Queries  Both

Sample:

	Header1	Header2	Header3
TOTAL			

Cancel < Back Next > Finish

# Crosstab Queries

Crosstab Query Wizard

Which table or query contains the fields you want for the crosstab query results?

To include fields from more than one table, create a query containing all the fields you need and then use this query to make the crosstab query.

Query: qry1a\_selAllFromPublishers  
Query: qry1b\_AltSelAllFromPublishers  
Query: qry1c\_selFromPublishers  
Query: qry2\_selFromPublishersofCA  
Query: qry3\_cartesianprodFromPublisherAndTitles  
**Query: qry4\_selFromPublisherAndTitles**  
Query: qry4a\_altSelFromPublisherAndTitles  
Query: qry4b\_selFromPublisherAndTitlesWConstrai  
Query: qry5\_sumPublishersAdvance

View

Tables  Queries  Both

Sample:

	Header1	Header2	Header3
TOTAL			

Cancel < Back **Next >** Finish

# Crosstab Queries

Crosstab Query Wizard

Which fields' values do you want as row headings?

You can select up to three fields.

Select fields in the order you want information sorted. For example, you could sort and group values by Country and then Region.

Available Fields:

- title\_name
- advance

Selected Fields:

- pub\_name

Sample:

pub_name	Header1	Header2	Header3
pub_name1	TOTAL		
pub_name2			
pub_name3			
pub_name4			

Cancel < Back Next > Finish

# Crosstab Queries

Crosstab Query Wizard

Which field's values do you want as column headings?

For example, you would select Employee Name to see each employee's name as a column heading.

title\_name  
advance

Sample:

pub_name	advance1	advance2	advance3
pub_name1	TOTAL		
pub_name2			
pub_name3			
pub_name4			

Cancel < Back Next > Finish



# Crosstab Queries

Crosstab Query Wizard

What number do you want calculated for each column and row intersection?

For example, you could calculate the sum of the field Order Amount for each employee (column) by country and region (row).

Do you want to summarize each row?

Yes, include row sums.

Fields:

title\_name

Functions:

Count  
First  
Last  
Max  
Min

Sample:

pub_name	advance1	advance2	advance3
pub_name1	Count(title_name)		
pub_name2			
pub_name3			
pub_name4			

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# Crosstab Queries

Crosstab Query Wizard

What do you want to name your query?

qry4\_selFromPublisherAndTitles\_Crosstab

That's all the information the wizard needs to create the query.

Do you want to view the query, or modify the query design?

View the query.

Modify the design.

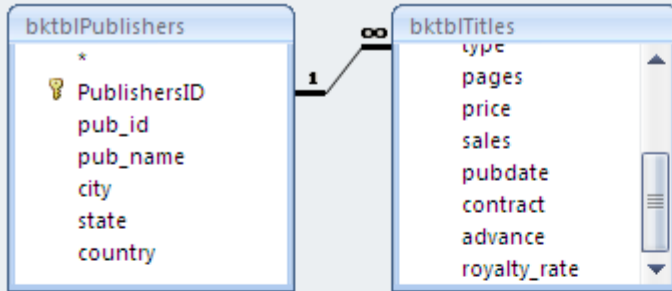
Cancel < Back Next > Finish

pub_name	Total Of title	<>	0	1000	10000	15000	20000	50000	100000	1000000
Abatis Publisher	9	1	2		1		2	1	2	
Core Dump Boc	1					1				
Schadenfreude	3			1			1			1

# Custom Calculations

- In queries, we would like to add fields representing some calculations which are based on the original query fields.
- We can use IF statements and arithmetic calculations.

# IF Statement



Expr1: IIf( [advance]>=20000,"Received an Advance","Did not receive an Advance")

Field:	pub_name	title_name	advance	Expr1: IIf([advance] >= 20000, "Received an Advance", "Did not receive an Advance")
Table:	bktbIPublishers	bktbITitles	bktbITitles	
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:				
or:				

# IF Statement

pub_name	title_name	advance	Expr1
Abatis Publishe	1977!	10000	Did not receive an Advance
Abatis Publishe	But I Did It Unconsciously	20000	Received an Advance
Abatis Publishe	Exchange of Platitudes	100000	Received an Advance
Abatis Publishe	How About Never?	20000	Received an Advance
Abatis Publishe	Just Wait Until After School	0	Did not receive an Advance
Abatis Publishe	Kiss My Boo-Boo	0	Did not receive an Advance
Abatis Publishe	Not Without My Faberge Egg		Did not receive an Advance
Abatis Publishe	Perhaps It's a Glandular Problem	100000	Received an Advance
Abatis Publishe	Spontaneous, Not Annoying	50000	Received an Advance
Core Dump Box	Ask Your System Administrator	15000	Did not receive an Advance
Schadenfreude	200 Years of German Humor	1000	Did not receive an Advance
Schadenfreude	I Blame My Mother	1000000	Received an Advance
Schadenfreude	What Are The Civilian Applications	20000	Received an Advance

# Nested IF Statement

- Handling more possible categories. For example, we want to represent this logic:

```
IF (less than or equal to 10000)
```

```
    print "Low Advance Payout"
```

```
ELSE IF (less than 20000)
```

```
    print "Middle Advance Payout"
```

```
ELSE IF (greater than or equal to 20000)
```

```
    print "High Advance Payout"
```

```
ELSE
```

```
    print "No Advance Payout"
```

# Nested IF Statement

Advance: IIf([advance]<=10000,"Low Advance Payout",IIf([advance]<20000,"Middle Advance Payout",IIf([advance]>=20000,"High Advance Payout","No Advance Payout"))))

The screenshot shows the Microsoft Access interface. In the design view, two tables are connected: **bktbIPublishers** (with fields: PublishersID, pub\_id, pub\_name, city, state, country) and **bktbITitles** (with fields: type, pages, price, sales, pubdate, contract, advance, royalty\_rate). A 1-to-many relationship is shown between PublishersID and pub\_id.

The **Expression Builder** dialog box is open, showing the following expression:

```
Expr1: IIf([advance]<=10000,"Low Advance Payout",IIf([advance]<20000,"Middle Advance Payout",IIf([advance]>=20000,"High Advance Payout","No Advance Payout"))))
```

Below the dialog, the query design grid is visible with the following columns:

Field:	pub_name	title_name	advance	Expr1: IIf([advance] <= 10000, "Low Advance Payout", IIf([advance] < 20000, "Middle Ad
Table:	bktbIPublishers	bktbITitles	bktbITitles	
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:				
or:				

# Nested IF Statement

pub_name	title_name	advance	Expr1
Abatis Publish	1977!	10000	Low Advance Payout
Abatis Publish	But I Did It Unconsciously	20000	High Advance Payout
Abatis Publish	Exchange of Platitudes	100000	High Advance Payout
Abatis Publish	How About Never?	20000	High Advance Payout
Abatis Publish	Just Wait Until After School	0	Low Advance Payout
Abatis Publish	Kiss My Boo-Boo	0	Low Advance Payout
Abatis Publish	Not Without My Faberge Egg		No Advance Payout
Abatis Publish	Perhaps It's a Glandular Problem	100000	High Advance Payout
Abatis Publish	Spontaneous, Not Annoying	50000	High Advance Payout
Core Dump Box	Ask Your System Administrator	15000	Middle Advance Payout
Schadenfreude	200 Years of German Humor	1000	Low Advance Payout
Schadenfreude	I Blame My Mother	1000000	High Advance Payout
Schadenfreude	What Are The Civilian Applications	20000	High Advance Payout
*			