



OSvC TECHNICAL SUPPORT

WEBINARS:

Useful Reports with Oracle Service Cloud

• our experts, your guides •

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ORACLE

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 - Custom Scripts
- Q&A (Chat)

Table of Contents

- Resources
- Topics with Examples
 - Variables in Filters
 - Report Linking
 - Custom Scripts
- Q&A (Chat)

Disclaimer

- Only talk about Reports in Console
 - No Customer Portal (CP)
 - No Browser User Interface (BUI)
- Not a code review
 - Will be showing code but not going over all of it
 - Will provide sample code after with more details

Resources

What is already out there?

Resources

- Community Discussion Forums
- Analytics Cookbook
- Oracle University (Analytics)
- Documentation
- YouTube Channel
- Oracle Service Cloud Knowledge Base



Topics

Variables in Filters

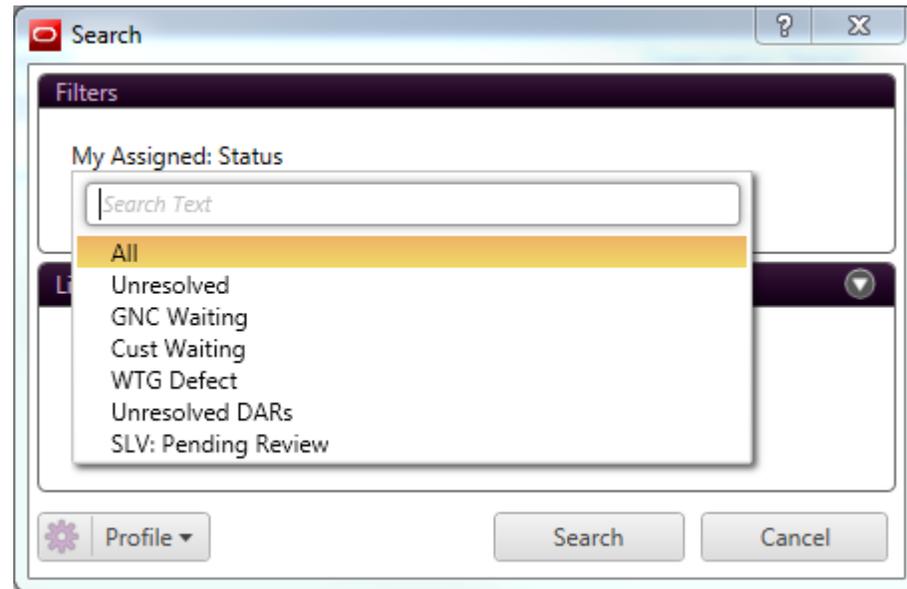
Report Linking

Custom Scripts

Variables in Filters

User friendly trick

Variables used in Filters



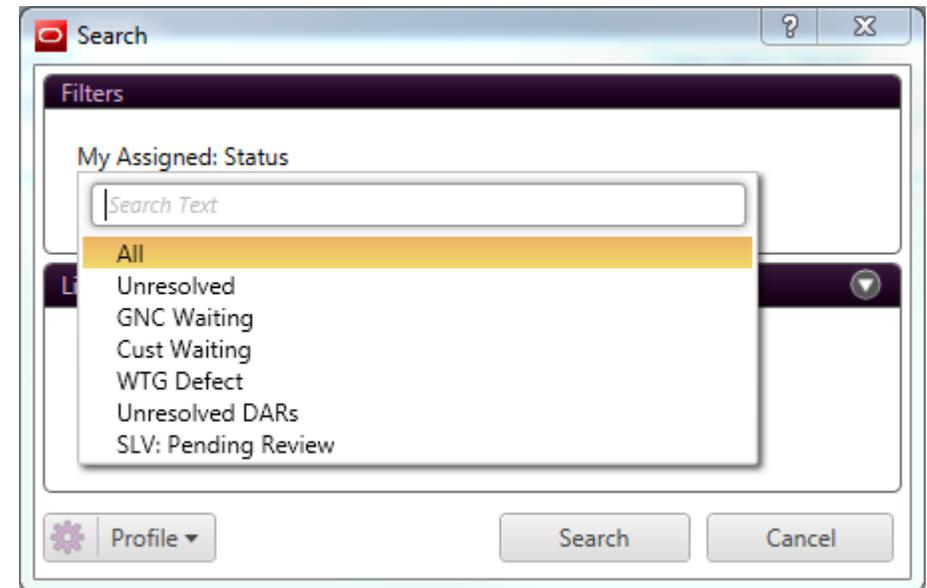
Variables used in Filters

➤ Pros:

- Easy to read filter structure
 - User Friendly
- Consistency
- Combine similar filter types into one selection
- Simplify filters

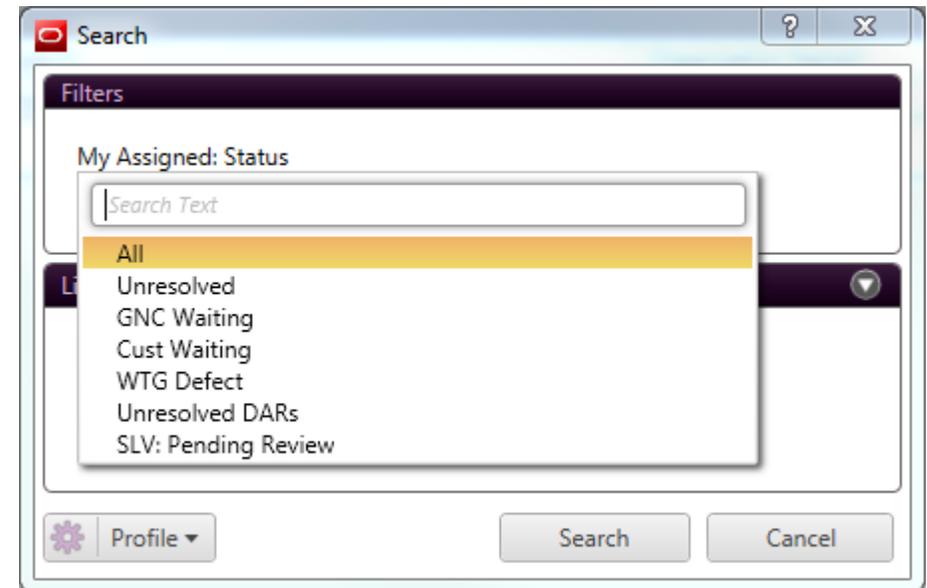
➤ Cons:

- Initial configuration is a bit more
- No multi-selecting
 - But can create more dropdown selections

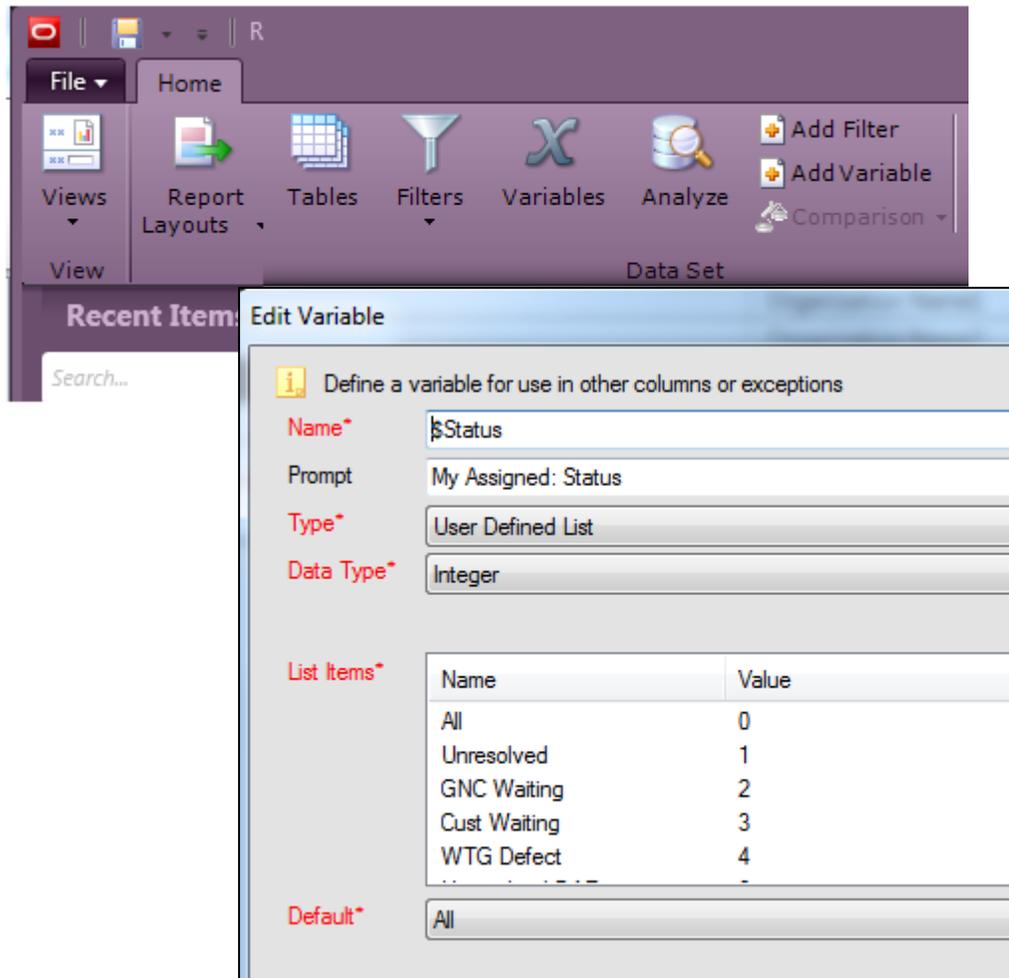


Variables used in Filters Contd.

- Combination of Status Type and Status Id
- Normally you would need 2 filters to display these two different fields
- User needs to know the data structure



Variables used in Filters Contd.

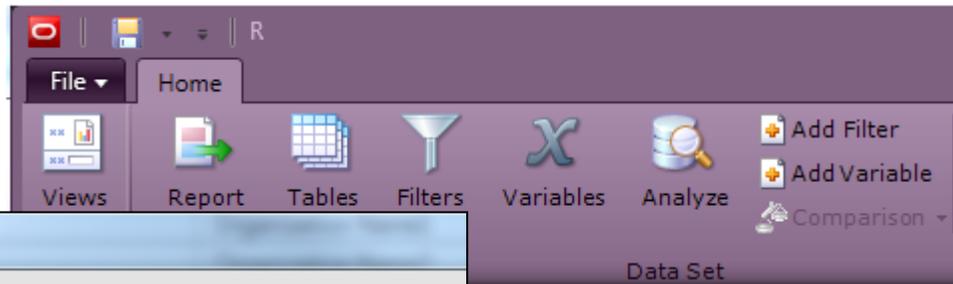


➤ Home > Data Set > Variables

➤ Add Variable

➤ User Defined List

Variables used in Filters Contd.



Edit Variable

Define a variable for use in other columns or exceptions

Name*

Prompt My Assigned: Status

Type* User Defined List

Data Type* Integer

List Items*

Name	Value
All	0
Unresolved	1
GNC Waiting	2
Cust Waiting	3
WTG Defect	4

Default* All

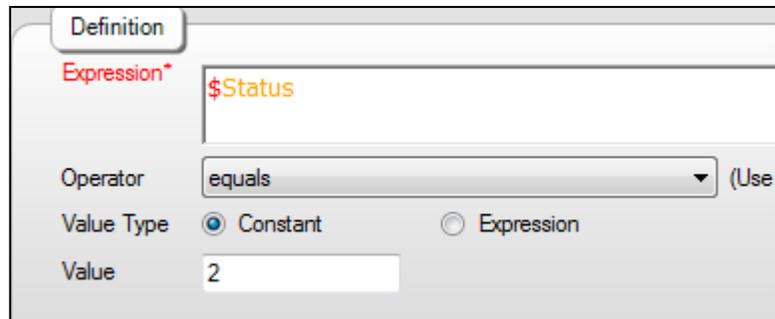
Edit Logical Expression

AND

- OR
 - AND
 - \$Status = 2
 - incidents.status_id in list GNC Waiting
 - AND
 - \$Status = 3
 - incidents.status_id in list CC- WTG:Cust Info Re...
 - AND
 - \$Status = 4
 - incidents.status_id in list CC- WTG:Defect, CC- ...
 - AND
 - \$Status = 5
 - incidents.status_id = CC- SLV:Pending Revi...

- Three key parts to the filter
1. Variable and the value

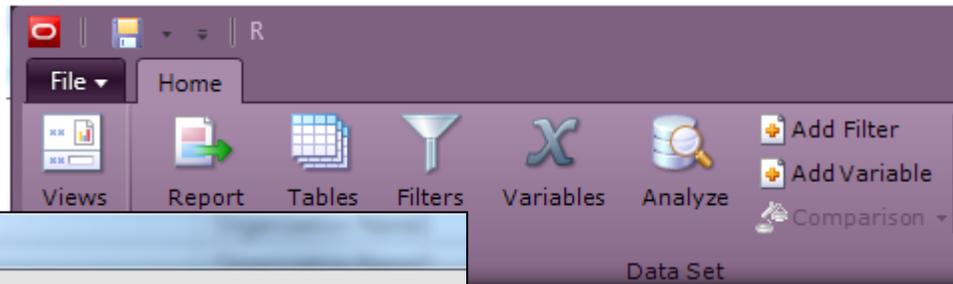
Variables used in Filters Contd.



The image shows a dialog box titled "Definition" with a tabbed interface. The "Expression*" field contains the text "\$Status". Below this, the "Operator" dropdown menu is set to "equals" with a "(Use" label to its right. Under "Value Type", the "Constant" radio button is selected, and the "Expression" radio button is unselected. The "Value" field contains the number "2".

- Three key parts to the filter
 1. Variable and the value

Variables used in Filters Contd.



Edit Variable

Define a variable for use in other columns or exceptions

Name*

Prompt My Assigned: Status

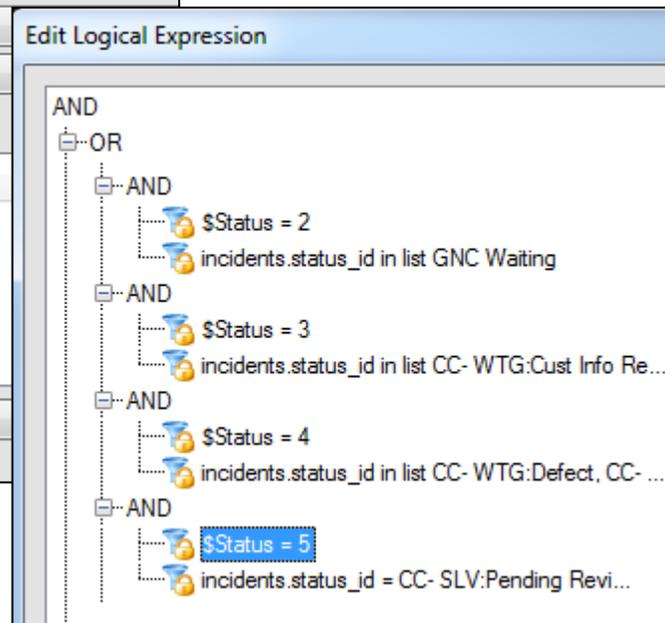
Type* User Defined List

Data Type* Integer

List Items*

Name	Value
All	0
Unresolved	1
GNC Waiting	2
Cust Waiting	3
WTG Defect	4

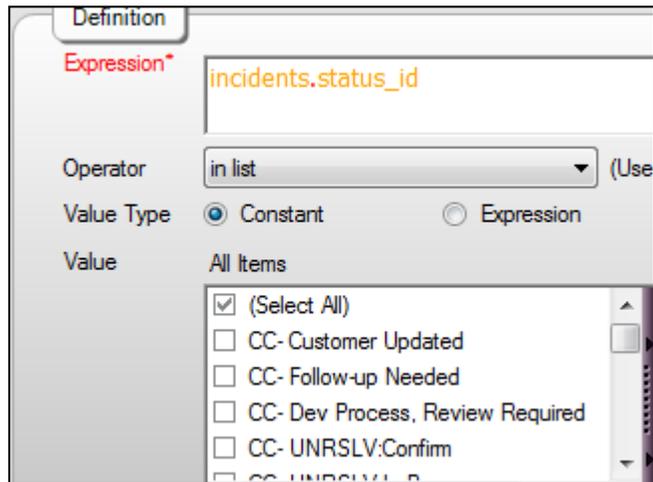
Default* All



➤ Three key parts to the filter

1. Variable and the value
2. The specific filters around that variable function

Variables used in Filters Contd.



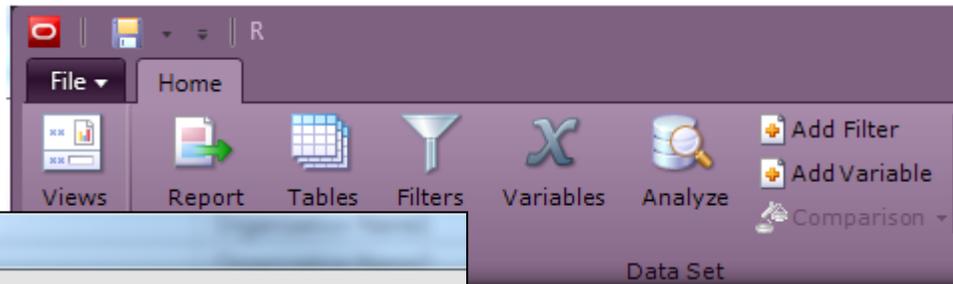
The screenshot shows a 'Definition' window for a filter. The 'Expression*' field contains the text 'incidents.status_id'. The 'Operator' is set to 'in list'. The 'Value Type' is set to 'Constant'. The 'Value' field is set to 'All Items', and a list of items is displayed below it, including '(Select All)', 'CC- Customer Updated', 'CC- Follow-up Needed', 'CC- Dev Process, Review Required', and 'CC- UNRSLV:Confirm'.

Expression*	incidents.status_id
Operator	in list (Use
Value Type	<input checked="" type="radio"/> Constant <input type="radio"/> Expression
Value	All Items
	<input checked="" type="checkbox"/> (Select All)
	<input type="checkbox"/> CC- Customer Updated
	<input type="checkbox"/> CC- Follow-up Needed
	<input type="checkbox"/> CC- Dev Process, Review Required
	<input type="checkbox"/> CC- UNRSLV:Confirm
	<input type="checkbox"/> CC- UNRSLV:...

➤ Three key parts to the filter

1. Variable and the value
2. The specific filters around that variable function

Variables used in Filters Contd.



Edit Variable

Define a variable for use in other columns or exceptions

Name*

Prompt My Assigned: Status

Type* User Defined List

Data Type* Integer

List Items*

Name	Value
All	0
Unresolved	1
GNC Waiting	2
Cust Waiting	3
WTG Defect	4
...	...

Default* All

Edit Logical Expression

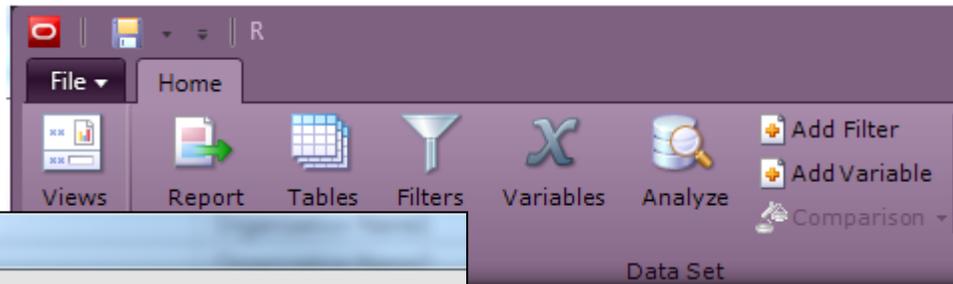
AND

- OR
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 - incidents.status_id = CC- SLV:Pending Revi...

➤ Three key parts to the filter

1. Variable and the value
2. The specific filters around that variable function
3. The Node Setup

Variables used in Filters Contd.



Edit Variable

Define a variable for use in other columns or exceptions

Name*

Prompt My Assigned: Status

Type* User Defined List

Data Type* Integer

List Items*

Name	Value
All	0
Unresolved	1
GNC Waiting	2
Cust Waiting	3
WTG Defect	4

Default* All

Edit Logical Expression

AND

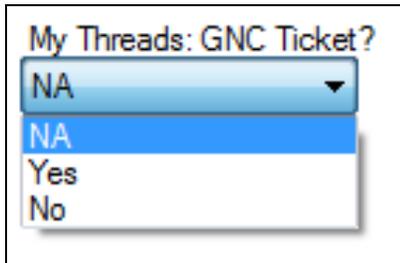
- OR
 - AND
 - \$Status = 2
 - incidents.status_id in list GNC Waiting
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 - incidents.status_id in list CC- WTG:Cust Info Re...
 - AND
 - \$Status = 4
 - incidents.status_id in list CC- WTG:Defect, CC- ...
 - AND
 - \$Status = 5
 - incidents.status_id = CC- SLV:Pending Revi...

➤ Three key parts to the filter

1. Variable and the value
2. The specific filters around that variable function
3. The Node Setup
 - 1 OR, Multiple AND

More Variables Examples

1.

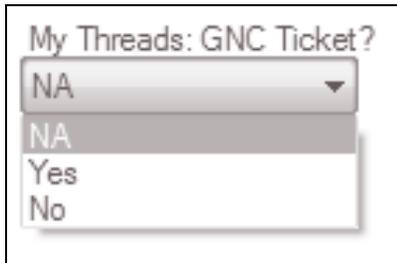


A screenshot of a web form element. The title is "My Threads: GNC Ticket?". Below the title is a dropdown menu. The dropdown is currently open, showing four options: "NA", "NA", "Yes", and "No". The first "NA" option is highlighted in blue.

1. Yes / No Based on fields that are not yes or no

More Variables Examples

1.



My Threads: GNC Ticket?

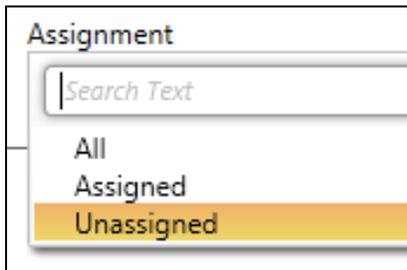
NA

NA

Yes

No

2.



Assignment

Search Text

All

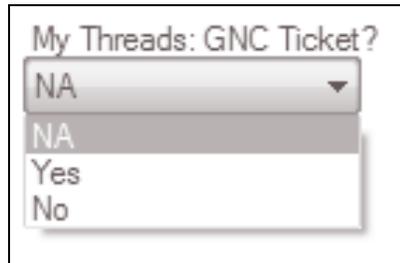
Assigned

Unassigned

1. Yes / No Based on fields that are not yes or no
2. Assigned to specific groups or not

More Variables Examples

1.



My Threads: GNC Ticket?

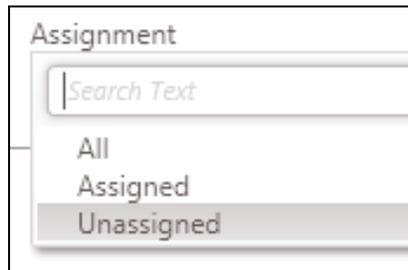
NA

NA

Yes

No

2.



Assignment

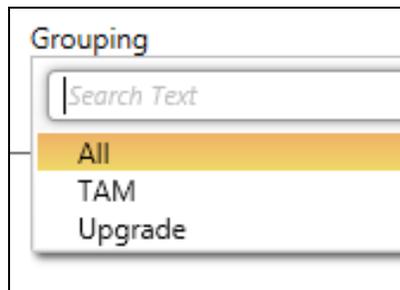
Search Text

All

Assigned

Unassigned

3.



Grouping

Search Text

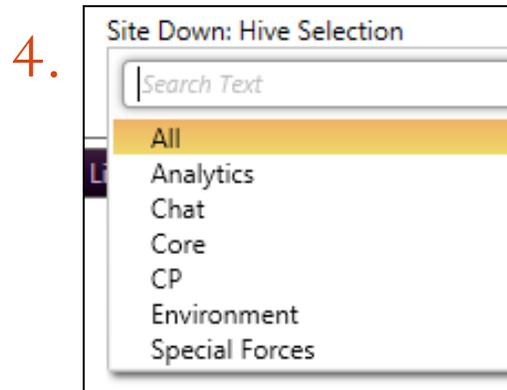
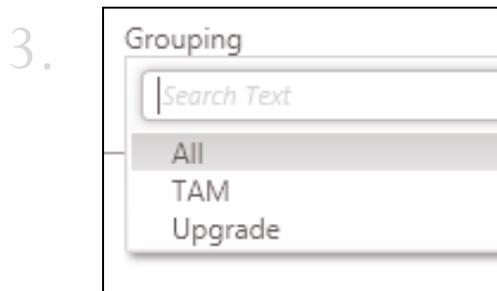
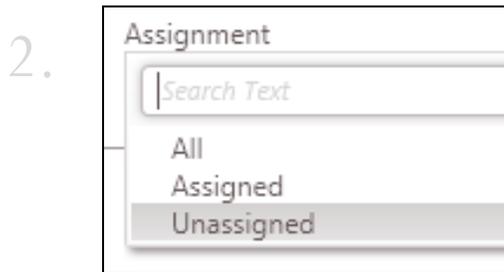
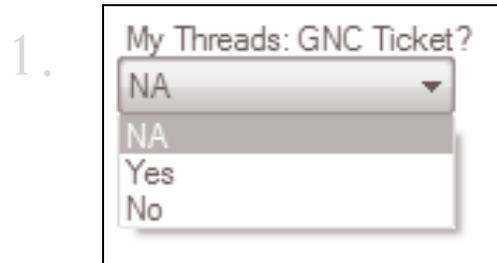
All

TAM

Upgrade

1. Yes / No Based on fields that are not yes or no
2. Assigned to specific groups or not
3. Teams that have more than 1 staff group

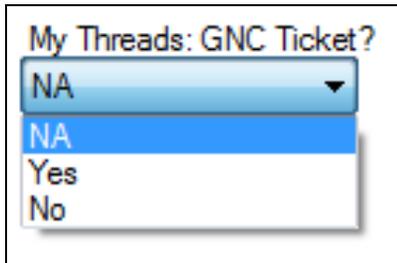
More Variables Examples



1. Yes / No Based on fields that are not yes or no
2. Assigned to specific groups or not
3. Teams that have more than 1 staff group
4. Products that separate groups / teams

More Variables Examples

1.



My Threads: GNC Ticket?

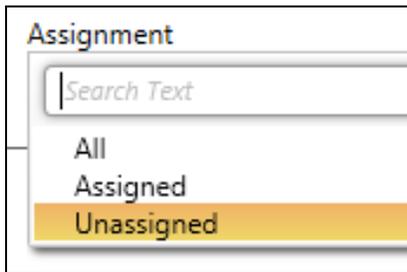
NA

NA

Yes

No

2.



Assignment

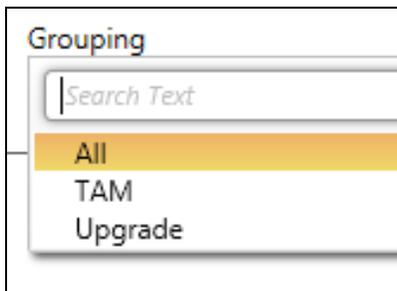
| Search Text

All

Assigned

Unassigned

3.



Grouping

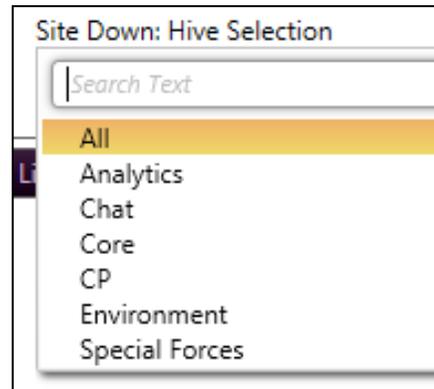
| Search Text

All

TAM

Upgrade

4.



Site Down: Hive Selection

| Search Text

All

Analytics

Chat

Core

CP

Environment

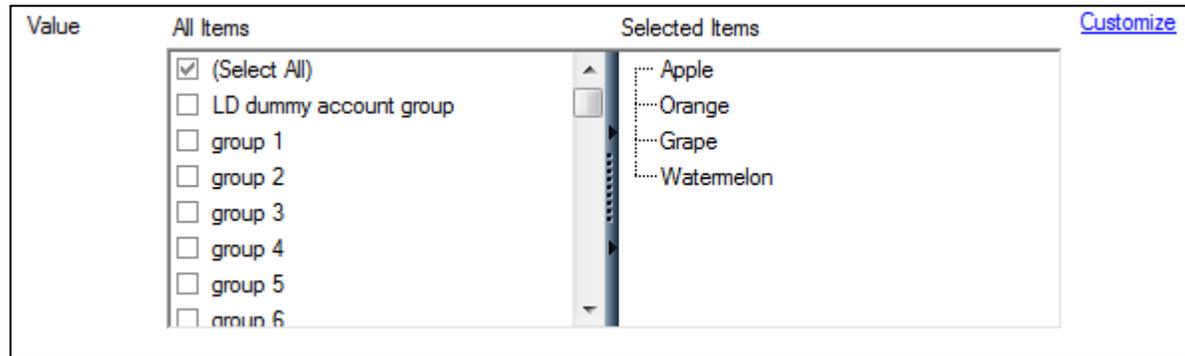
Special Forces

1. Yes / No Based on fields that are not yes or no
2. Assigned to specific groups or not
3. Teams that have more than 1 staff group
4. Products that separate groups / teams

Why Not Customize Filter Values?

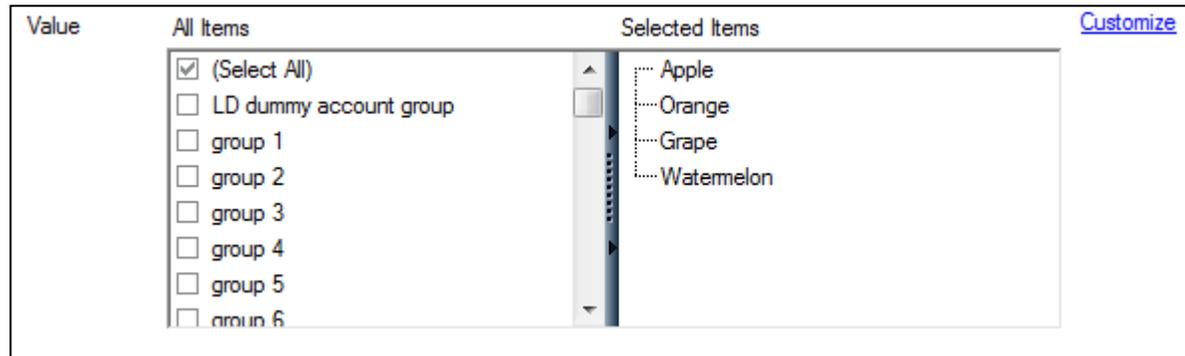
Value	All Items	Selected Items	Customize
	<input checked="" type="checkbox"/> (Select All)		
	<input type="checkbox"/> LD dummy account group		
	<input type="checkbox"/> group 1		
	<input type="checkbox"/> group 2		
	<input type="checkbox"/> group 3		
	<input type="checkbox"/> group 4		
	<input type="checkbox"/> group 5		
	<input type="checkbox"/> group 6		
		Apple	
		Orange	
		Grape	
		Watermelon	

Why Not Customize Filter Values?



- Long list that users have to decipher / understand
- Still see all the menu options that may not be necessary

Why Not Customize Filter Values?



- Long list that users have to decipher / understand
- Still see all the menu options that may not be necessary
- Variables allow users to understand without needing to know the entire data structure

Report Linking

The undervalued tool

Report Linking

Runtime Benefits:

- Improves performance
 - Reduces rows examined
 - Report Linking runs each link as separate queries/reports
 - Minimizes max join issues
 - Can use conditional report links on specific values or filters

Report Linking

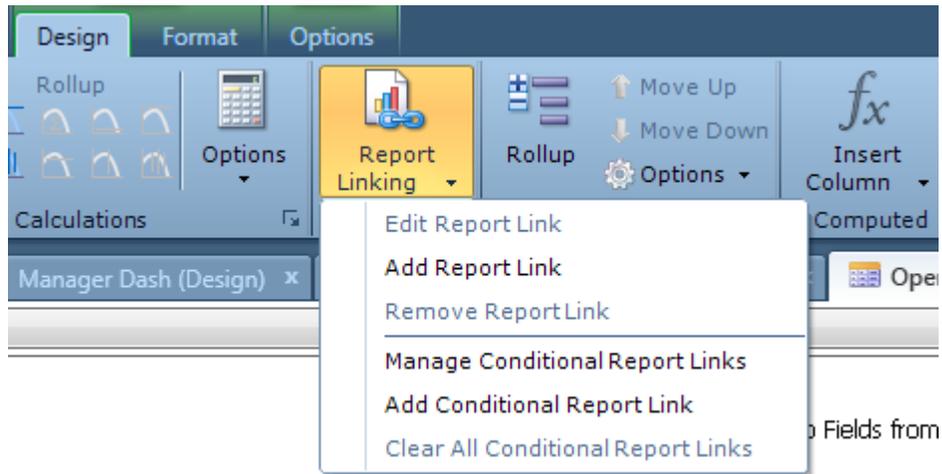
Runtime Benefits:

- Improves performance
 - Reduces rows examined
 - Report Linking runs each link as separate queries/reports
 - Minimizes max join issues
 - Can use conditional report links on specific values or filters

Administration Benefits

- Consistency
 - Can create 1 report and copy it so it has the same columns, filters etc..
- Save time on report changes
 - Changing a column you only have to do in 1 place

Report Linking



➤ Design > Linking > Report Linking

➤ Examples

- Link directly to a report by using parent values, filters, variables etc..
- Setup conditional report links based on the value of a parent column

Report Linking: Conditional Formatting Example

- Two different reports based on open length
- Usually use when I need to show different data based on the same output
 - EX: Length time open/closed, severity, organizations, staff groups etc...

Reference #	Open Length
180823-000000	228d 16h 13m
180823-000001	228d 15h 55m
180904-000000	216d 20h 57m
180904-000001	216d 20h 57m
180906-000001	214d 19h 16m
180919-000000	201d 20h 39m
180919-000001	201d 20h 35m
180920-000000	200d 21h 2m
180925-000001	195d 15h 50m
181009-000000	181d 22h 31m
181009-000001	181d 22h 30m
190115-000000	83d 19h 47m
190214-000000	53d 17h 38m
190214-000003	53d 14h 55m
190312-000000	27d 16h 50m
190313-000001	26d 22h 0m

Top Level > 216d 21h 0m

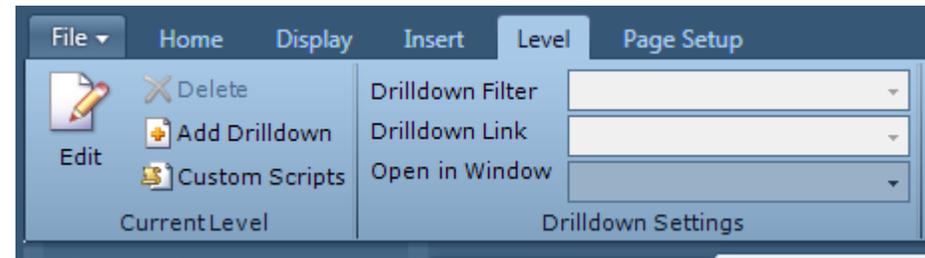
Date Created	Full Name	Organization Name	Reference #
08/23/2018 03:38 PM	Binx Hocus	OrgC	180823-000000
08/23/2018 03:57 PM	Binx Hocus	OrgC	180823-000001
09/04/2018 10:54 AM	Binx Hocus	OrgC	180904-000000
09/04/2018 10:54 AM	Binx Hocus	OrgC	180904-000001

Top Level > 53d 17h 42m

Date Created	Full Name	Organization Name	Reference #	Group	First Response
03/13/2019 09:51 AM	Sassy Bound	OrgA	190313-000001	Watermelon	03/13/2019 09:51 AM
02/14/2019 03:57 PM	Simba King	OrgB	190214-000003	Watermelon	02/14/2019 03:57 PM
03/12/2019 03:02 PM	Simba King	OrgB	190312-000000	Watermelon	03/12/2019 03:02 PM

What about Drilldowns?

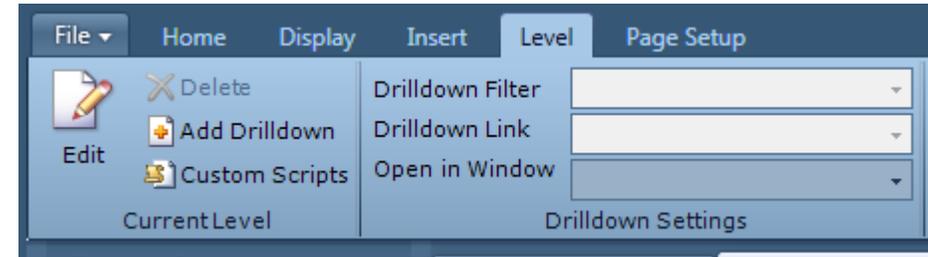
- I still use them very frequently
 - Simpler / Quick reports
 - My reports for analysis
 - Smaller reports



What about Drilldowns?

➤ I still use them very frequently

- Simpler / Quick reports
 - My reports for analysis
- Smaller reports



➤ When not to

- If I have to create multiple drilldowns using the same data
 - Duplication is bad (function in programming)
- Big data sets (transactions)
- Details or Data change often

Why I like Report Linking

- Gets rid of duplication
- Maintenance, easy to make changes
- Different rendering options
 - Replace Window, New Tab, Use Existing Tab (more like a drilldown) and **Split Window**

Custom Scripts

Master of manipulation

Custom Scripts

- I generally never go into a report thinking I'm going to use a custom script

Custom Scripts

- I generally never go into a report thinking I'm going to use a custom script
 - Exception: one specific data set

Custom Scripts

- I generally never go into a report thinking I'm going to use a custom script
 - Exception: one specific data set

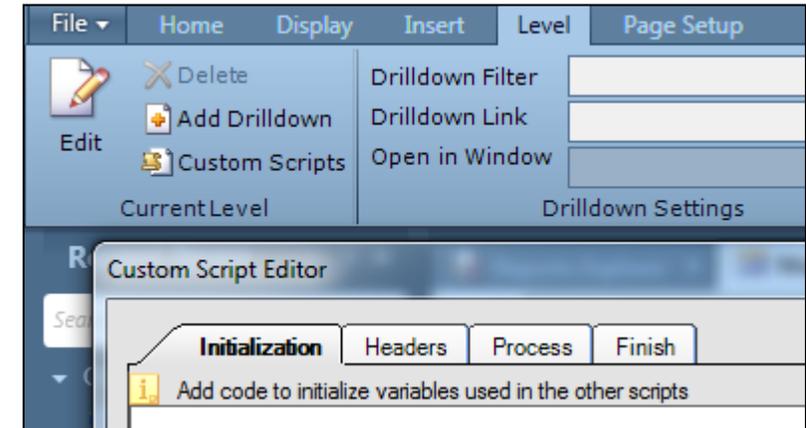
- Further manipulate the data in a report
 - Get complicated data
 - Format data
 - Replace complicated column expressions

Custom Scripts

- I generally never go into a report thinking I'm going to use a custom script
 - Exception: one specific data set
- Further manipulate the data in a report
 - Get complicated data
 - Format data
 - Replace complicated column expressions
- PHP scripting language

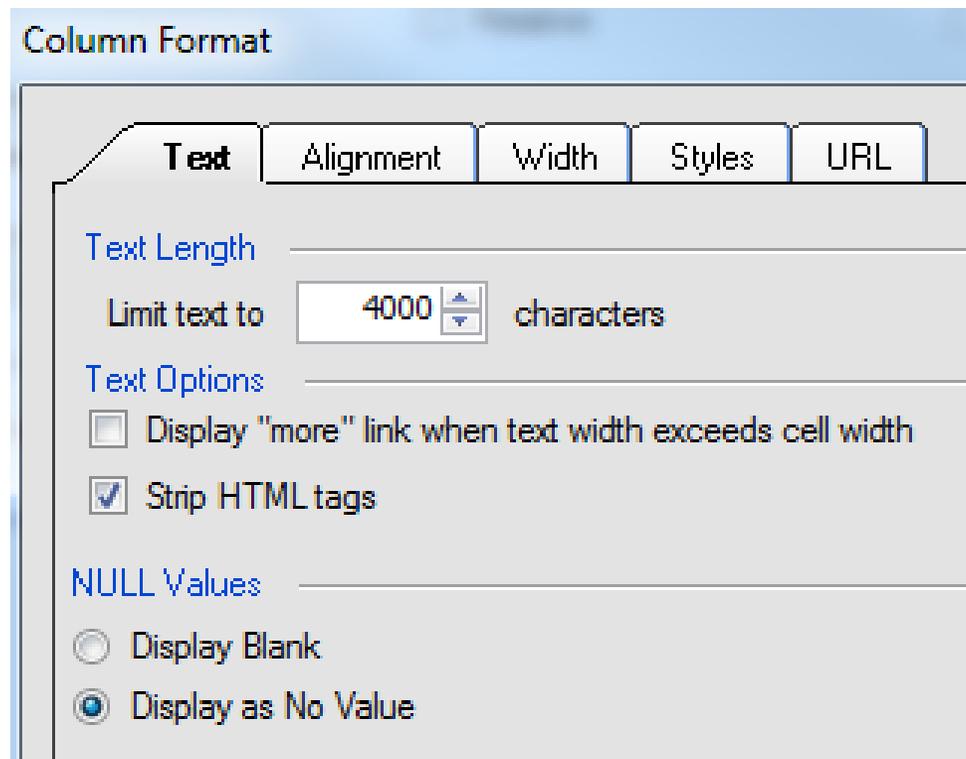
Custom Scripts

- I generally never go into a report thinking I'm going to use a custom script
 - Exception: one specific data set
- Further manipulate the data in a report
 - Get complicated data
 - Format data
 - Replace complicated column expressions
- PHP scripting language
- Initialization and Process Tab



Example 1 (Ex1): Formatting

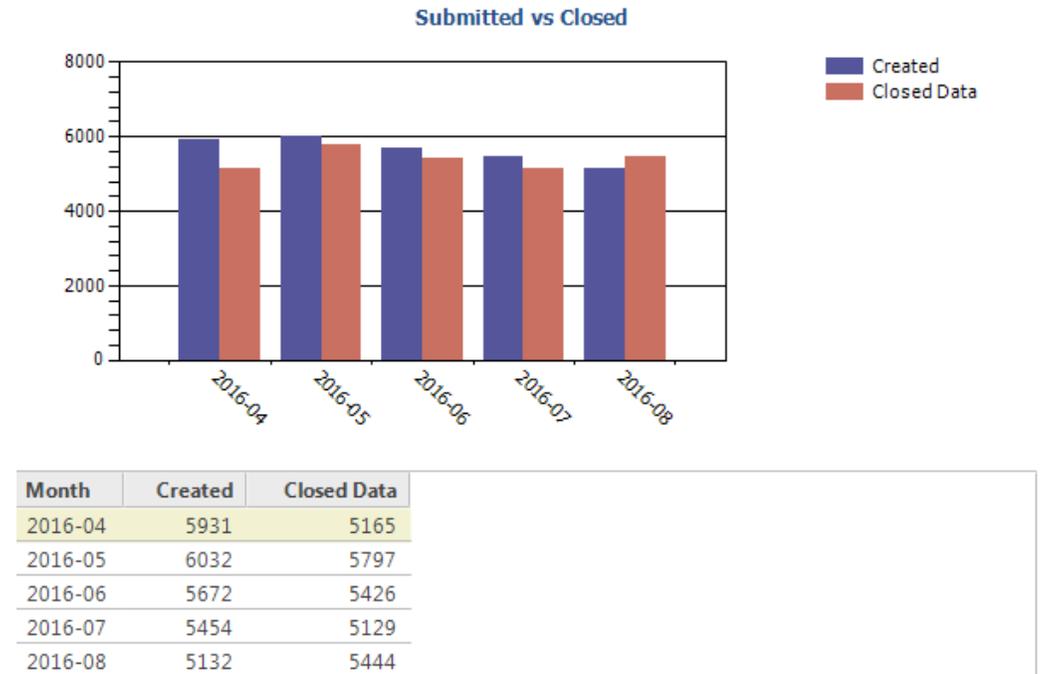
```
<div> <span style="font-family:Arial;font-size:12px;">--&nbsp; the attached image shows the  
agent's view of the customer's screen from within Cobrowse and the  
customer's view of the same page from their mobile device</span> </div>  
<div> <span style="font-family:Arial;font-size:12px;">&nbsp;</span> </div>
```



The image shows a 'Column Format' dialog box with several tabs: 'Text', 'Alignment', 'Width', 'Styles', and 'URL'. The 'Text' tab is selected. Under 'Text Length', there is a 'Limit text to' field set to '4000' characters. Under 'Text Options', there are two checkboxes: 'Display "more" link when text width exceeds cell width' (unchecked) and 'Strip HTML tags' (checked). Under 'NULL Values', there are two radio buttons: 'Display Blank' (unchecked) and 'Display as No Value' (checked).

Example 2 (EX2): Run Another Report

- Two different date fields that when in one report they do not mess together and produce incorrect data
- Complicated filter structure if any at all



EX2 Contd.

Report 1

Tables

Table	Alias	Join condition	Type
Incidents	incidents		

Filters

Logical Expression: Date

Type	Name	Prompt	Expression	Operator	Value	Data Type
Run-time selectable	Date	Date	incidents.created	between	-1 Months Rounded to 0 Months Rounded	Date Time

Columns

Heading	Expression	Data Type	Description
Month	date_format(incidents.created, 'YYYY-MM')	Text	
Created	count(distinct(incidents.i_id))	Integer	
Closed Data	to_number("")	Integer	

Report 2

Tables

Table	Alias	Join condition	Type
Incidents	incidents		

Filters

Logical Expression: Date

Type	Name	Prompt	Expression	Operator	Value	Data Type
Run-time selectable	Date	Date	incidents.closed	between	-1 Months Rounded to 0 Months Rounded	Date Time

Columns

Heading	Expression	Data Type	Description
Month	date_format(incidents.created, 'YYYY-MM')	Text	
Closed	count(distinct(incidents.i_id))	Integer	

Knowing your data

- It is important to know what you want to get out of your report and understanding the data structure and the formulas being used

count(distinct(incidents.created))

count(distint(incidents.i_id))

- These are very similar formulas but they perform very differently. They are both technically unique identifiers but created has a possibility of having something created at the exact same time versus i_id is completely unique
 - The formulas are both correct but you just need to know what you want and any slight gotchas

date_format(incidents.created, 'YYYY-MM-DD')

date_group(incidents.created, 'YYYY-MM-DD')

- Again these are very similar formulas but they perform very differently. date_format will only give you dates that have data versus date_group will give you all dates in your date range regardless if there is data (will show as 0)
 - The formulas are both correct but you just need to know what you want and any slight gotchas

EX2: Contd.

➤ Initialization Tab

➤ Where we are going to call the other report to run and get the data from it

- Fetch Report 2
- Get the search field
- Use the filter name

```
require_once(get_cfg_var('doc_root').'/include/ConnectPHP/  
Connect_init.php'); initConnectAPI();
```

```
use \RightNow\Connect\v1_2 as RNCPHP_my_report;
```

```
$ar = RNCPHP_my_report\AnalyticsReport::fetch(489650);
```

```
$val1 = $params["search_args"]["search_field0"]["val"];
```

```
$filters = new
```

```
RNCPHP_my_report\AnalyticsReportSearchFilterArray;
```

```
foreach($ar->Filters as $filter)
```

```
{
```

```
    if($filter->Name == "Date")
```

```
    {
```

```
        $textFilter = new
```

```
RNCPHP_my_report\AnalyticsReportSearchFilter;
```

```
$textFilter->Name = "Date";
```

```
$textFilter->Values = array($val1);
```

```
$filters[] = $textFilter;
```

```
break;
```

```
    }
```

```
}
```

```
global $rptVal;
```

```
$arr = $ar->run(0,$filters,100);
```

```
$arr2 = $ar->run(0,$filters,100);
```

EX2: Contd.

➤ Initialization Tab

➤ Where we are going to call the other report to run and get the data from it

- Fetch Report 2
- Get the search field
- Use the filter name
- Go through each row
- finalData is what will fill the row with the data you just captured

```
$nrows= $arr->count();

if($nrows)
{
    $finalData = array();
    $dateArr = array();
    $closed = array();

    while($row = $arr->next())
    {
        if($row['Closed'] != null)
            $closed[] = $row['Closed'];
        array_push($dateArr,$row['Month']);
    }
    $closedArr = array();
    while($row = $arr2->next())
    {
        if($row['Closed'] != null)
            $closedArr[$row['Month']] = $row['Closed'];
    }
    foreach($dateArr as $date)
    {
        $finalData[$date] = array('CData'=>$closedArr[$date]);
    }
    $rptVal = $finalData;
}
}
```

EX2 Contd.

- Process Tab
- Where you actually populate the column with the data you just captured in the initialization tab
- Use your global variable
- Name that used in the finalData you need to use the same name

```
global $rptVal;
```

```
for($i = 0; $i < count($rows); $i ++)  
{  
    $acctID = $rows[$i][0]->val;  
    $arr = $rptVal[$acctID];  
    $rows[$i][2]->val = $arr['CData'];  
}
```

Example 3 (Ex3): Combination

All Date	Shift Data	Manager Data	Hive Data	Trend Data	Agents	Notes Added	Responses Sent	Assigned	Closed
All Data	Shift Data	Manager Data	Hive Data	Trend Data	75	8166	6239	4706	355

	Full Name	Responses Score	Notes Score	Assignment Score	Closed Score	First Response Score
1	MalloryTest WeberTest	90	80	80	90	70
2	Mr. Peanut Butter	100	100	100	80	100
3	Cim Test	80	70	70	100	90

➤ Shift Data > Report Linking

- This runs another report that is outside this report
- The linked report has a custom script
 - The custom script runs another report and then formats that data into a ranking

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➤ Shift Data > Report Linking

- This runs another report that is outside this report
- The linked report has a custom script
 - The custom script runs another report and then formats that data into a ranking

Ex3: Custom Script

All Date	Shift Data	Manager Data	Hive Data	Trend Data	Agents	Notes Added	Responses Sent	Assigned	Closed
All Data	Shift Data	Manager Data	Hive Data	Trend Data	75	8166	6239	4706	355

 ➤ Manipulated Data (main report)

	Full Name	Responses Score	Notes Score	Assignment Score	Closed Score	First Response Score
1	MalloryTest WeberTest	90	80	80	90	70
2	Mr. Peanut Butter	100	100	100	80	100
3	Cim Test	80	70	70	100	90

➤ Raw Data (called report)

Account ID	Full Name	Responses	Notes	Assigned	Closed	FirstResponses
2222221	MalloryTest WeberTest	24	112	15	10	19
2222223	Mr. Peanut Butter	83	146	87	50	39
2222222	Cim Test	19	44	10	8	20



Ex3: Report Linking

All Date	Shift Data	Manager Data	Hive Data	Trend Data	Agents	Notes Added	Responses Sent	Assigned	Closed
All Data	Shift Data	Manager Data	Hive Data	Trend Data	75	8166	6239	4706	355

Assign Filter Values

The following is a list of the linked report's run-time selectable filters and variables. On this page you can specify the filter or variable values you want you click on the link. If you want to set a filter or variable value that is based on data in the parent report, set the Use drop-down menu to 'Parent Column Value' or 'Parent Filter Value'. If you want the parent report's filter value to be passed to the linked report's filter or variable, set the Filter Value' and choose the filter you want from the Value drop-down menu. If you want the filter or variable to use the linked report's default value: 'Default Value'. If you want to specify a constant value, set the Use drop-down menu to 'Custom Value' and then set the value. Filters and variable and must have a value.

Required	Name	Prompt	Operator	Use	Value
	Account Shift	Account Shift	in list	Parent Column Value	Staff Shift/Region
	Month Start	Month Start	greater than	Parent Filter Value	Month Start
	Weeks	Weeks	less than	Parent Filter Value	Weeks
	Want	Want	less than	Parent Filter Value	Want
	Before	Before	greater than	Parent Filter Value	Before
	Month End	Month End	less than or e	Parent Filter Value	Month End
⚠	\$FYYear	Fiscal Year (June - May)	equals	Parent Variable Value	\$FYYear
⚠	\$ReviewYear	Review Year	equals	Parent Variable Value	\$ReviewYear
⚠	\$Quarter	Quarter	equals	Parent Variable Value	\$Quarter

- Parent Variable Value
- Parent Column Value
- Parent Filter Value
- Default Value
- Custom Value

- Each linked report can have different values based on the parent reports fields/filters > dynamic

Ex3: Custom Script

➤ Manipulated Data (main report = Report 1)

	Full Name	Responses Score	Notes Score	Assignment Score	Closed Score	First Response Score
1	MalloryTest WeberTest	90	80	80	90	70
2	Mr. Peanut Butter	100	100	100	80	100
3	Cim Test	80	70	70	100	90

➤ Raw Data (called report = Report 2)

Account ID	Full Name	Responses	Notes	Assigned	Closed	FirstResponses
2222221	MalloryTest WeberTest	24	112	15	10	19
2222223	Mr. Peanut Butter	83	146	87	50	39
2222222	Cim Test	19	44	10	8	20

Ex3: Whys

Why Report Linking?

- Conditional reporting on output values in the report
 - I.E. based on the manger, hive, shift
- Allows the report to run faster as it will query all the data separate
- Allows me to run a report that has a custom script

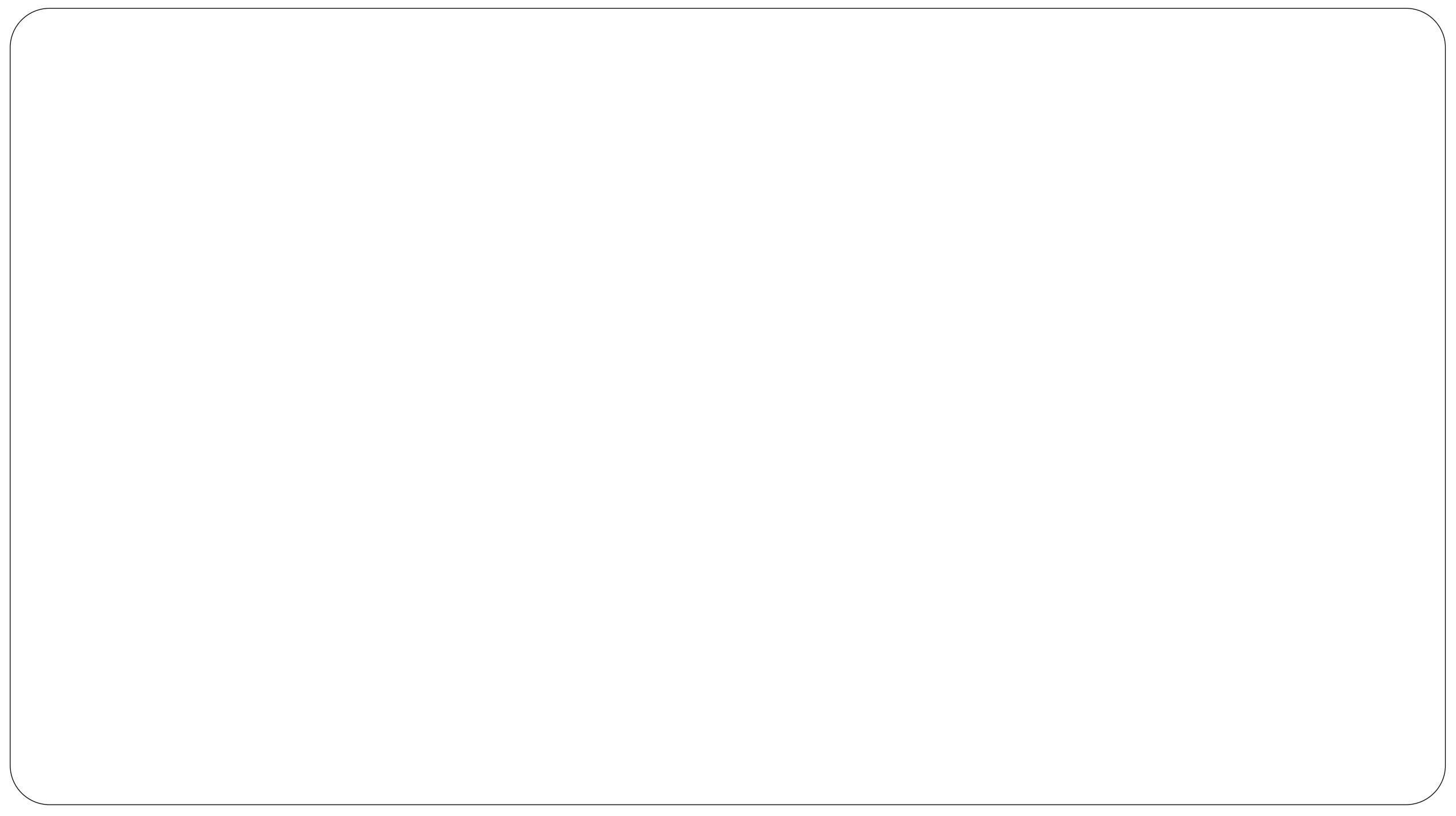
Why Custom Script?

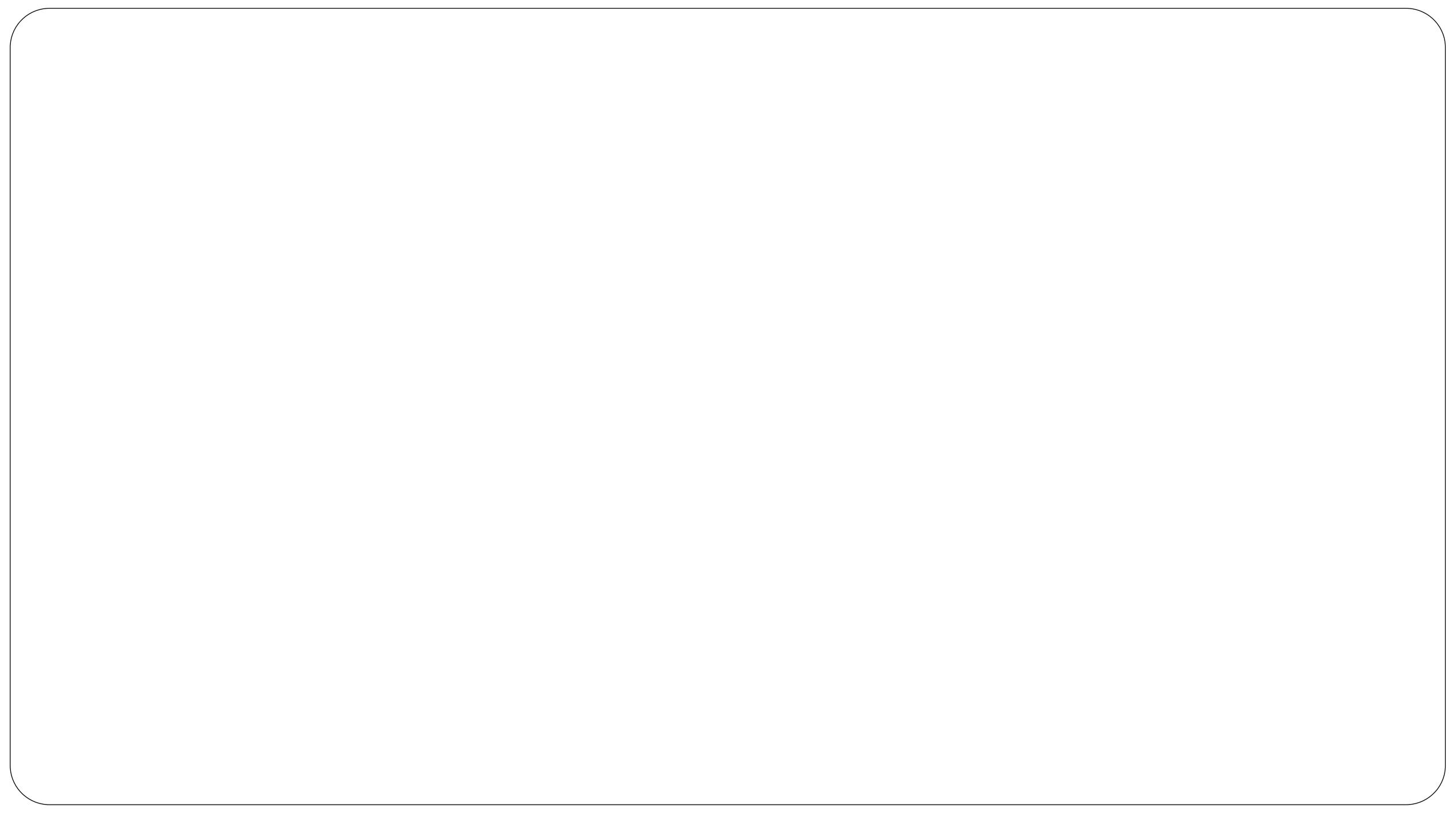
- Run another report that has the raw data (generally not in a nice readable format)
- Process raw data and make it into a readable format

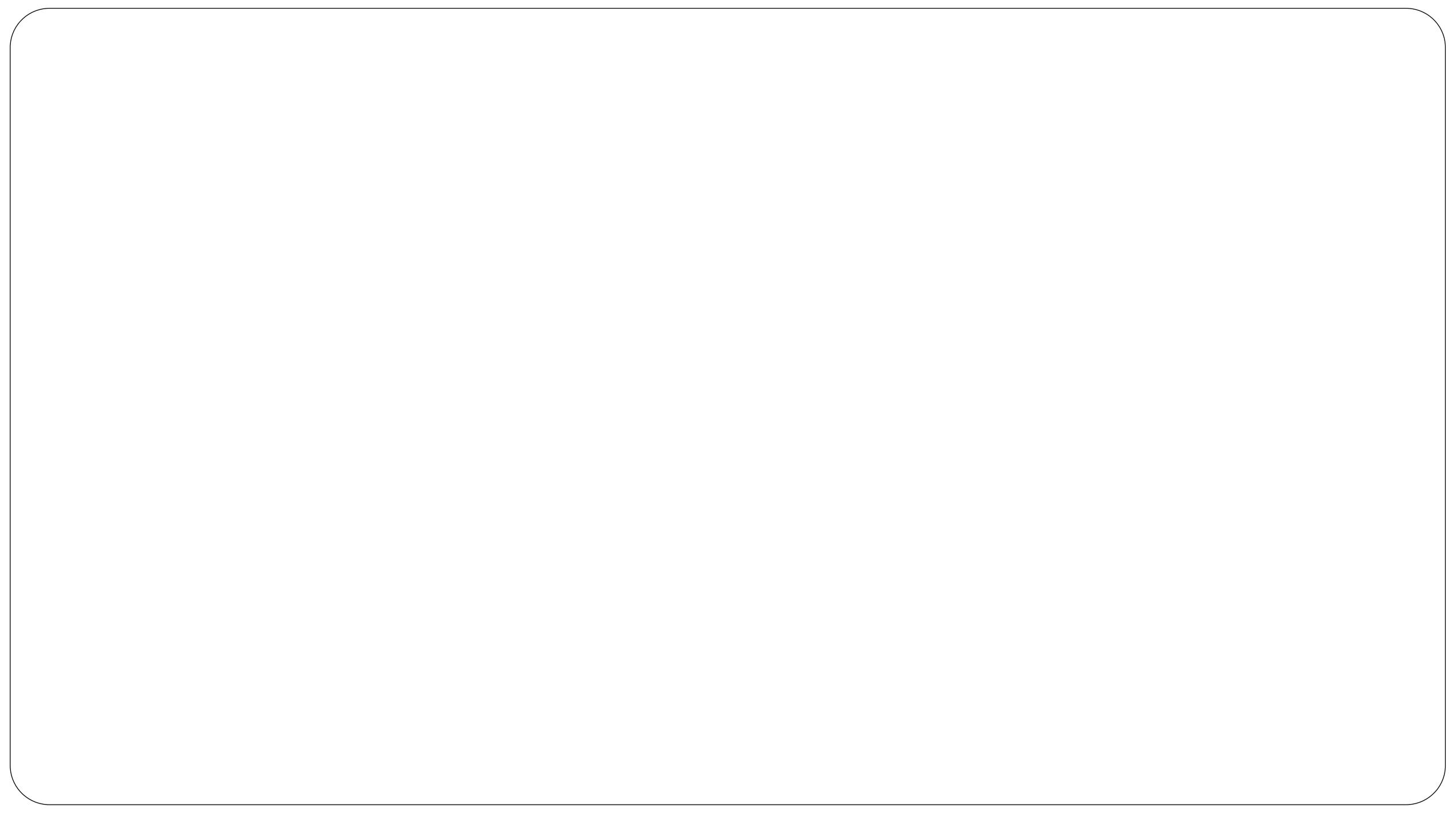
Q&A

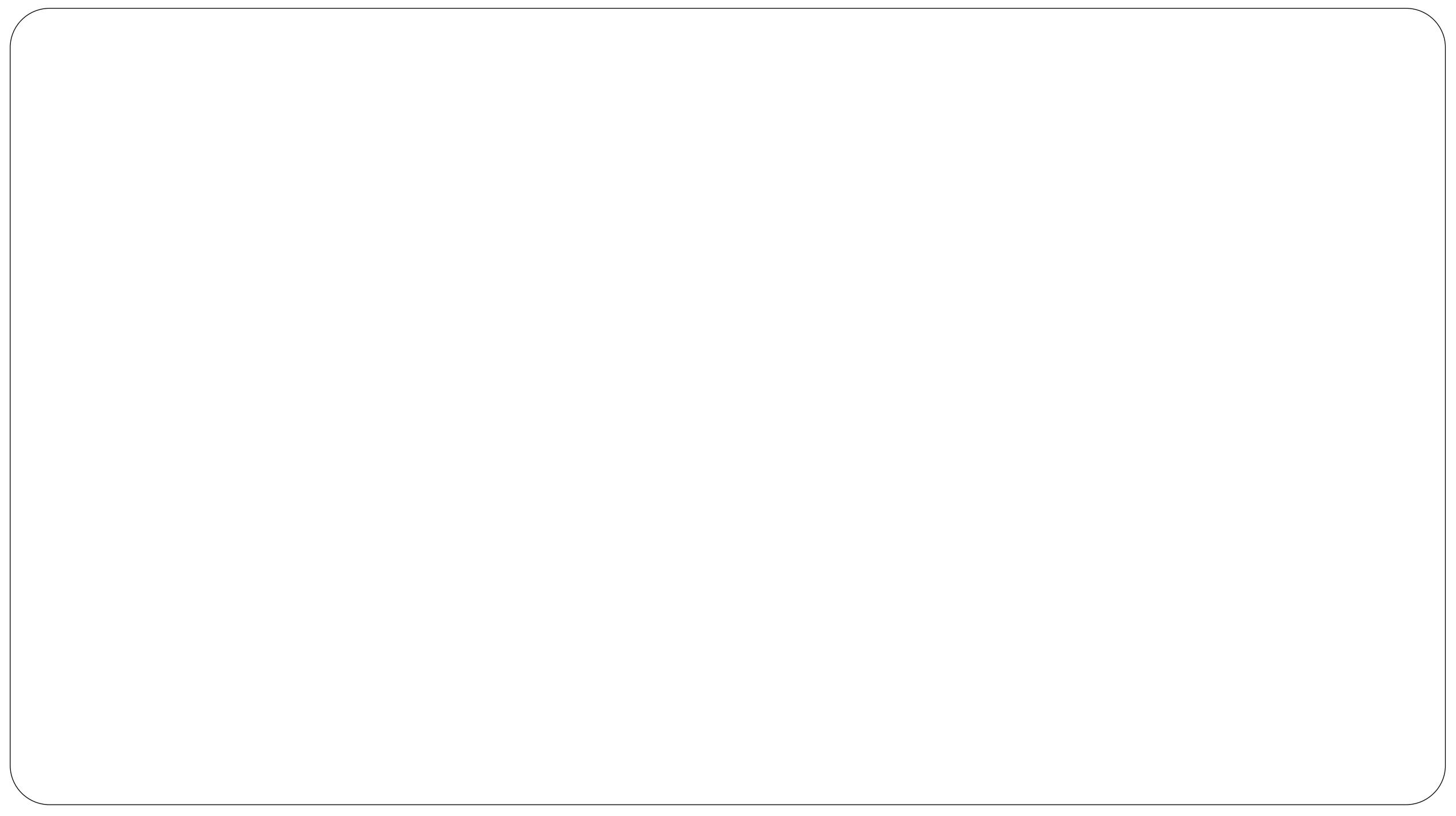
Reporting is complicated so some questions I might have to get back to you on

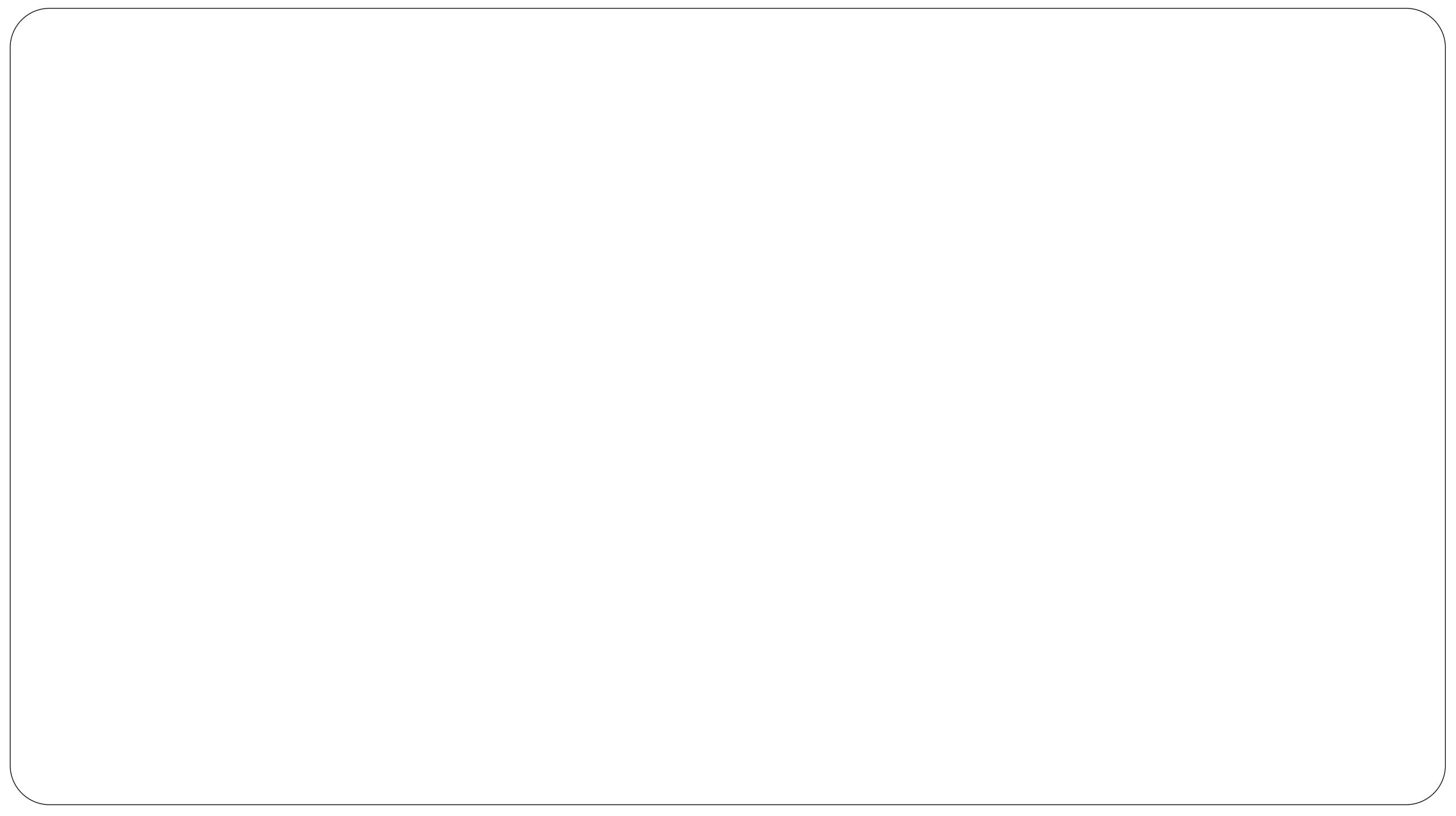


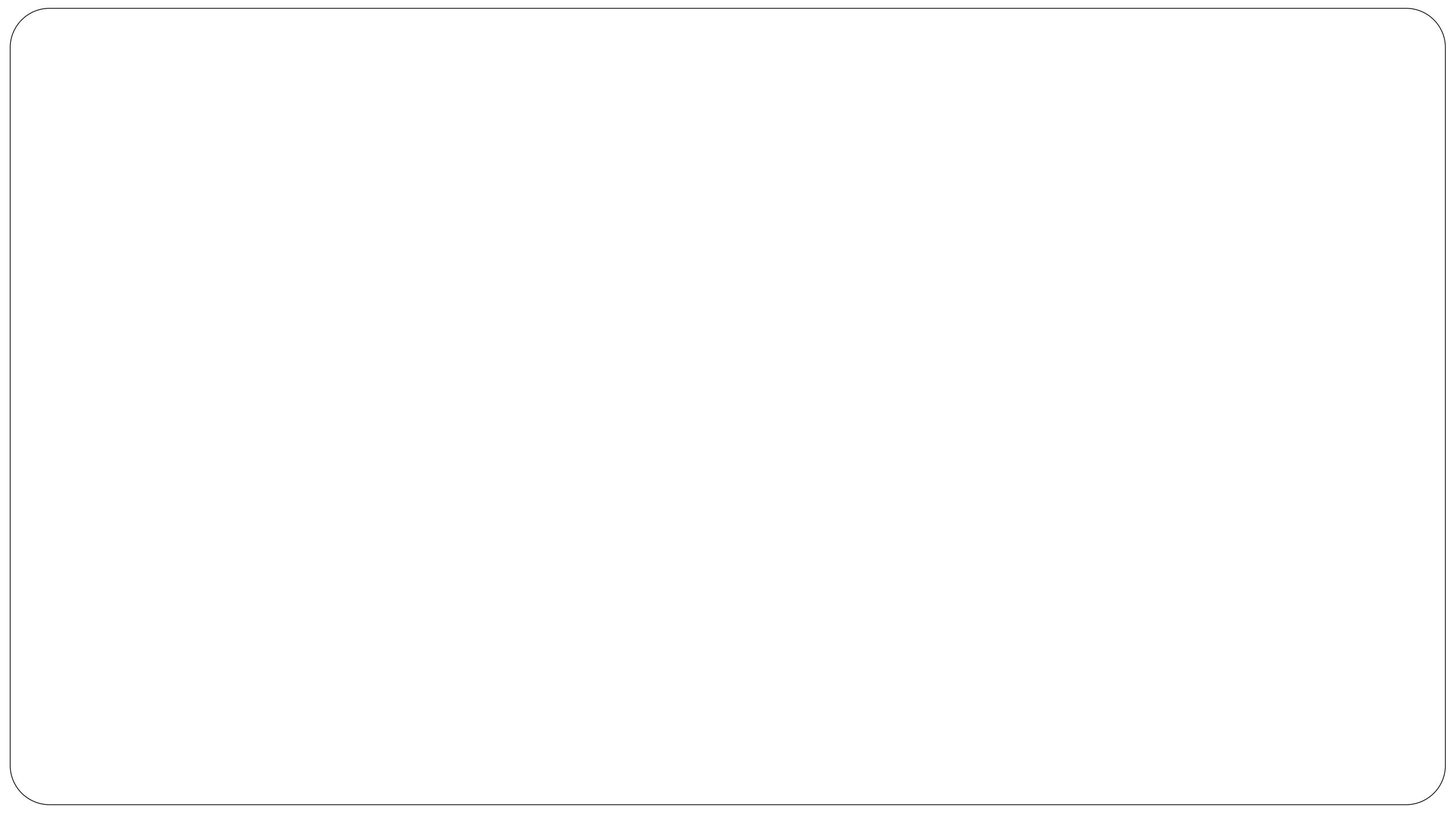












Example 2 (Ex2): Formatting

- Not showing specific items when there is or isn't a value
- Have a column show values based on a second or third column

Reference #	First Group Assigned	Original Product (Product Change)	Already Missed when First Assigned?
SLT: Missed (2 items)			
190402-000027	Grape	Original: Product1	Yes By: -1h 29m 25s
190401-000178	Grape	Original: Product2	Yes By: -5h 30m 3s
SLT: Met (17 items)			
	Orange	Product1	
190409-000092	Watermelon	Original: Product3	
190409-000066	Watermelon	Product2	
190408-000127	Apple	Product1	
190409-000086	Apple	Original: Product3	

EX2: Formatting

- Check multiple column values to determine what the format for your column should be
- If it doesn't meet the

```
if($rows[0][17]->val > $rows[0][16]->val)
{
    if($rows[0][14]->val > $rows[0][16]->val)
    {
        $init = $rows[0][14]->val - $rows[0][16]->val;
        $hours = floor($init / 3600);
        $minutes = floor(($init / 60) % 60);
        $seconds = $init % 60;
        $rows[0][15]->val = 'Yes By: -' . $hours . 'h' . $minutes .
            'm' . $seconds . 's';
    }
    else
    {
        $rows[0][15]->val = 'No';
    }
}
```

EX2: Formatting

- Rows[0][6] is already a huge expression
- Makes a complicated expression into a easily readable code

```
// Get SRs that have not had a product change
if($rows[0][6]->val == null)
    $rows[0][6]->val = $rows[0][7]->val;
else
    $rows[0][6]->val = 'Original: ' . $rows[0][6]->val;
```