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at ICF International

Data Dashboards Using Excel and MS Word

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Gabriel Hartmann

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Agenda

- Introduction to Dashboards
- Automation Process
  - Demonstration
  - 4 steps:
    1. Design a dashboard
    2. Create Word Template with Bookmarks
    3. Organize the data in Excel
    4. Run the code

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Introduction to Dashboards

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The Education Dashboard

- Is a tool to:
  - Help organizations improve student performance
  - Increase teacher effectiveness
  - Manage operations more efficiently and cost effectively
  - Better communicate results to student, teachers, parents, the public, and state and federal education agencies

Brown, C. (2011). Converge Special Report: The Education Dashboard. Center for Digital Education 2(3), 1-39.

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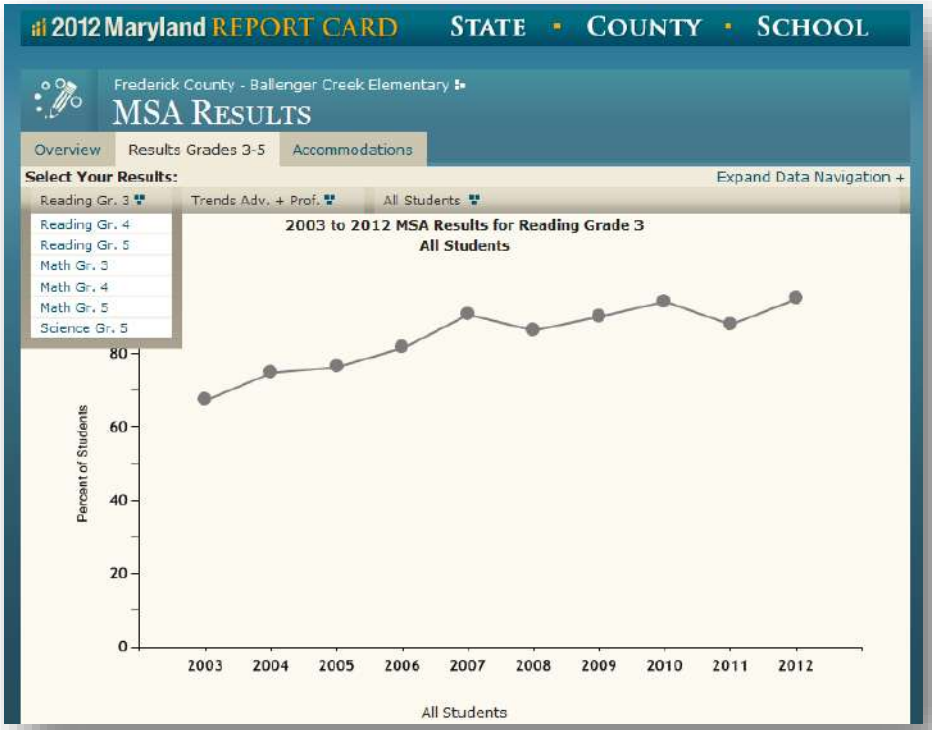
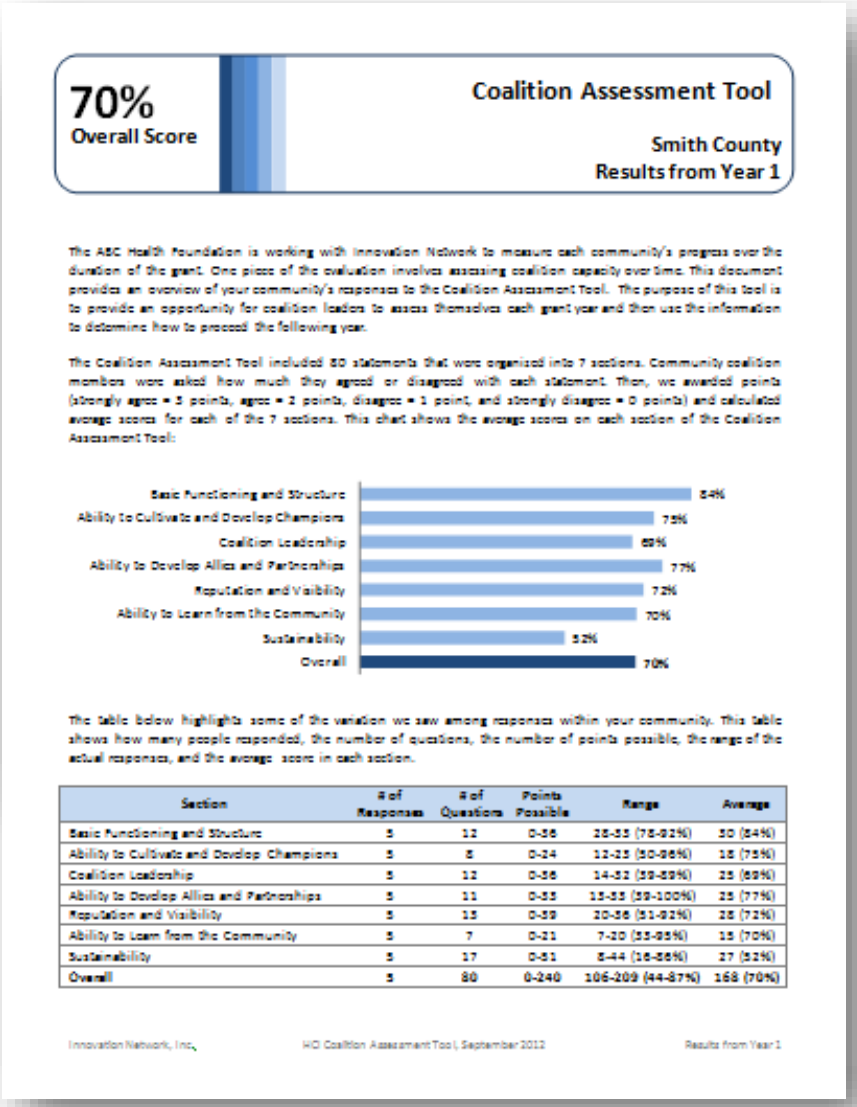
Examples



Maryland Report Card, www.mdreportcard.org



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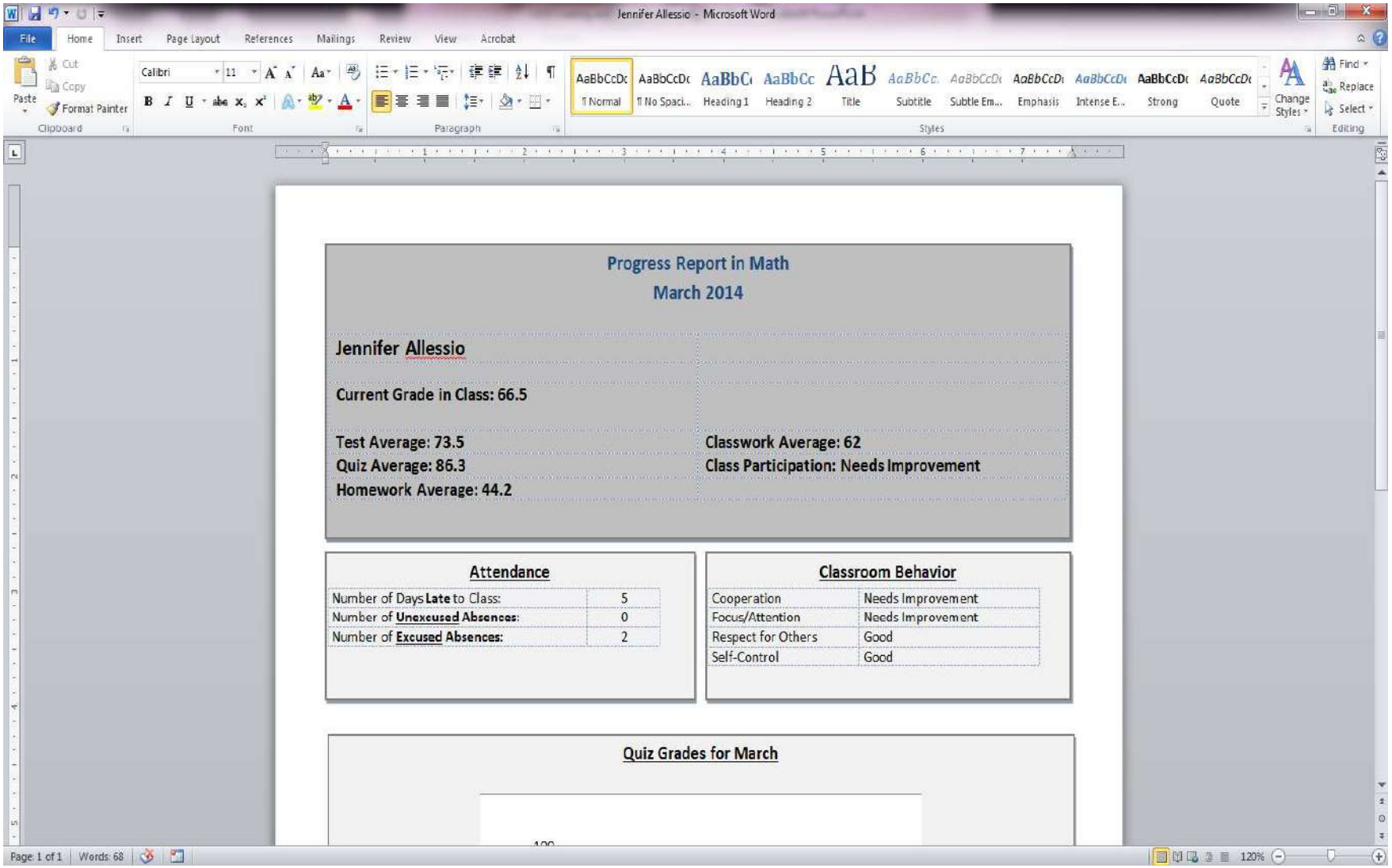
The Automation Process



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Before We Get Started…

Have the following files available:

- REL Project.dotx (Template)
- REL Project.xlsm (Data File)
- Data Dashboards Using Excel and MS Word Handout (PDF)

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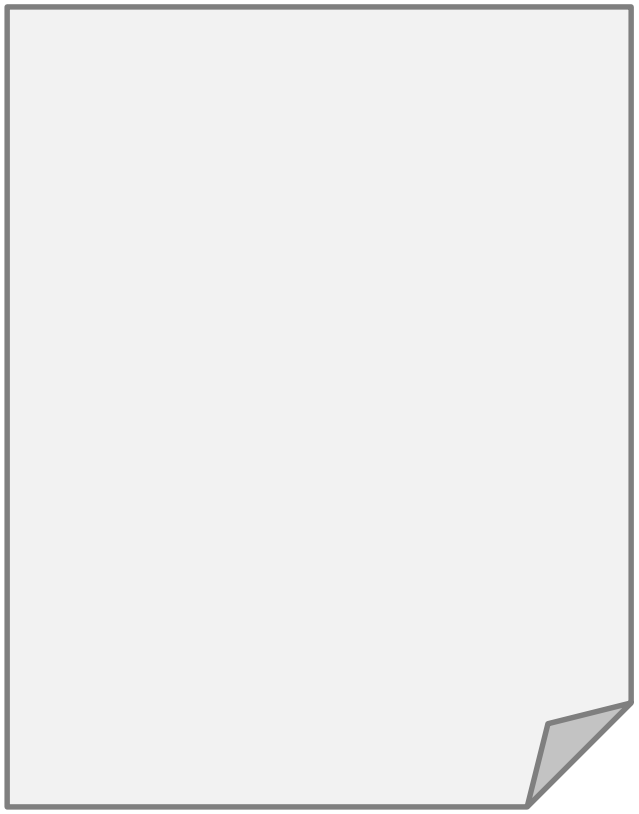
Step 1: Design a Data Dashboard

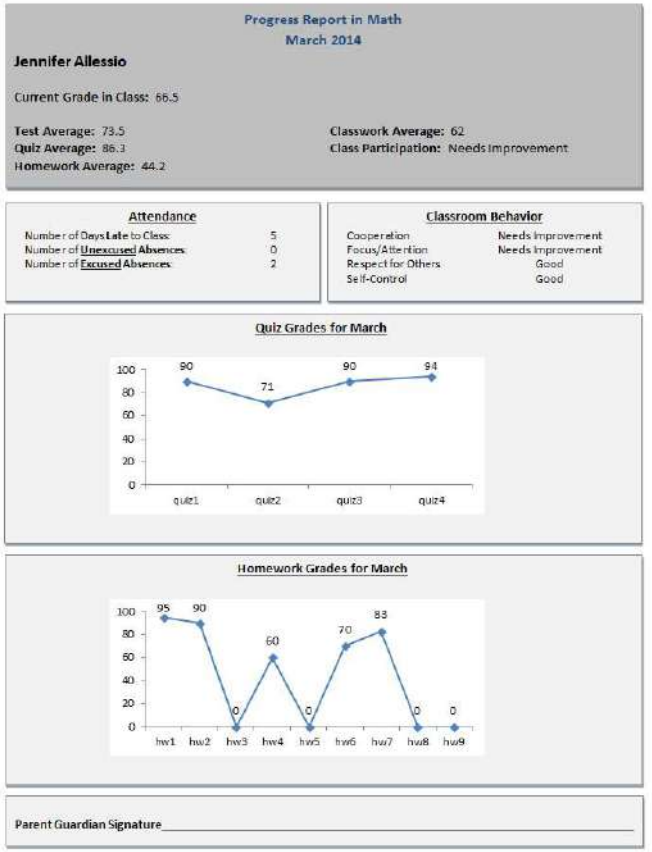
Developing a Model

Design a Model

Start with a Blank Page



Fill in the Model with Data



Progress Report in Math
March 2014

Jennifer Allessio

Current Grade in Class: 86.5

Test Average: 73.5
Quiz Average: 86.3
Homework Average: 44.2

Classwork Average: 62
Class Participation: Needs Improvement

Attendance	
Number of Days Late to Class	5
Number of Unexcused Absences	0
Number of Excused Absences	2

Classroom Behavior	
Cooperation	Needs Improvement
Focus/Attention	Needs Improvement
Respect for Others	Good
Self-Control	Good

Quiz Grades for March

Homework Grades for March

Parent Guardian Signature _____

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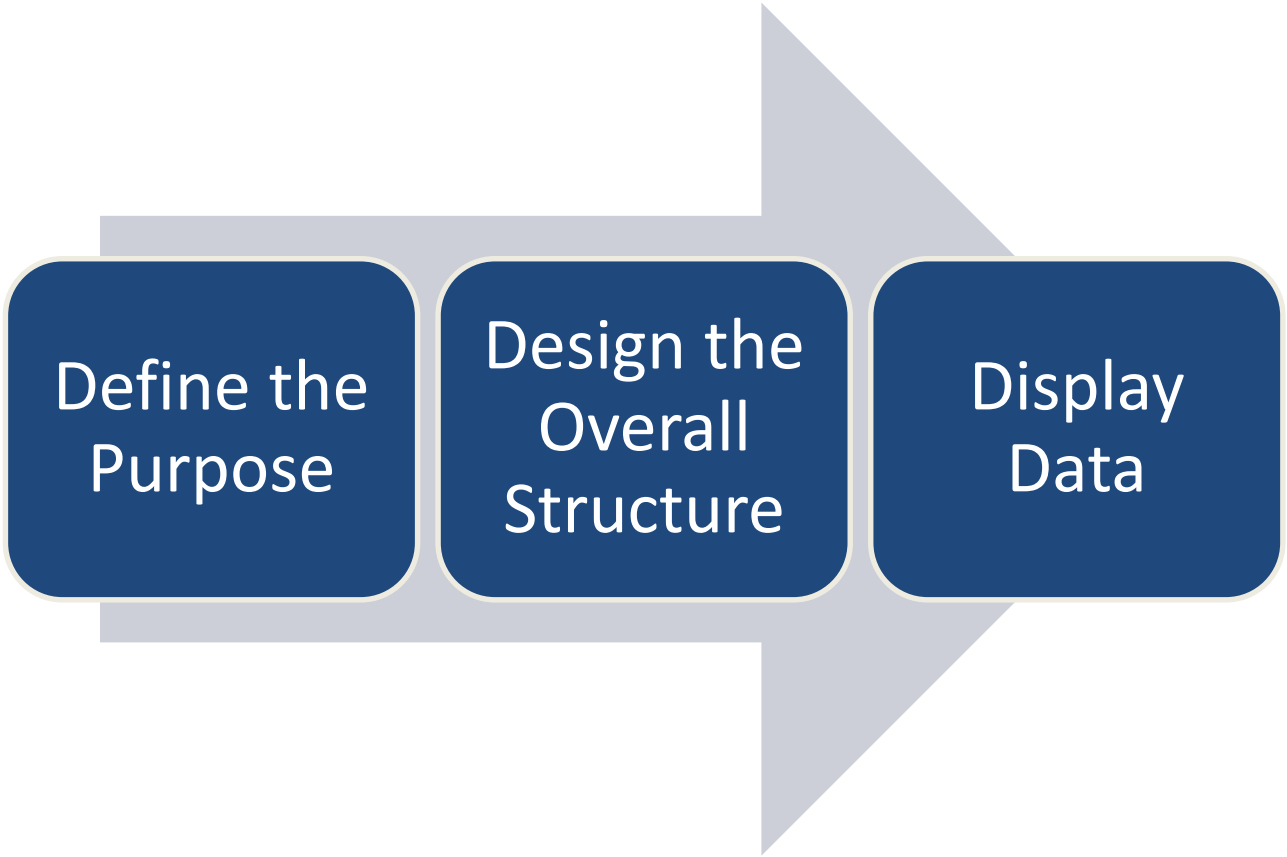
Developing a Data Dashboard



What Do You Want Your Dashboard To Look Like?

- Decide on layout
  - Number of pages
  - Will it be broken into sections?
  - Will it include any tables?
  - Will it include any charts?

- You can also take an existing document and make it a dashboard

Now It's Your Turn..
Let's create a dashboard

The dashboard will include information for parents on the following:

1. Demographics, percentage of students by:
   a. race/ethnicity (Asian, Black, Hispanic, White, Other)
   b. special education status
   c. ELL status
2. Test scores in reading and math

Decide on your layout

Remember…this is your model!

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Step 2: Creating a Word Template

Adding Bookmarks

Word Template: Model Dashboard

Leadership Education Foundation - Arrow Academy — 2011-2012 School Year

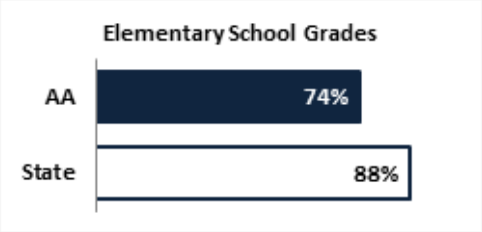
Current Grades: K-8
Geographic Area: Brazosport ISD, Bryan ISD, Dallas ISD, Houston ISD
Charter Type: Open-Enrollment Charter
Number of Students: 450

Summary of School Mission/Vision: To give all students the opportunity to access knowledge and acquire the skills to become contributing, responsible citizens within our society. All students should develop the passion to be a lifelong learner.

Special Categories	
Special Education:	3%
Free and Reduced Lunches:	70%
Limited English Proficient:	0%
At-Risk:	25%

Race/Ethnicity			
Asian:	0%	Hispanic:	16%
Black:	82%	Other:	1%
White:	1%		

2010-11 Baseline Student Performance – Percent Met Standard in Reading



Word Template: Highlight Key Elements

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Special Categories

Special Education:	3%
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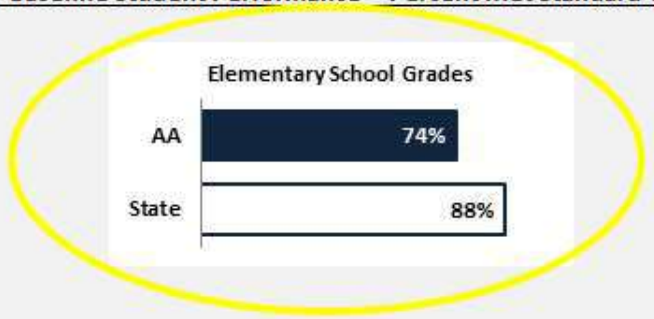
Limited English Proficient:	0%
At-Risk:	25%

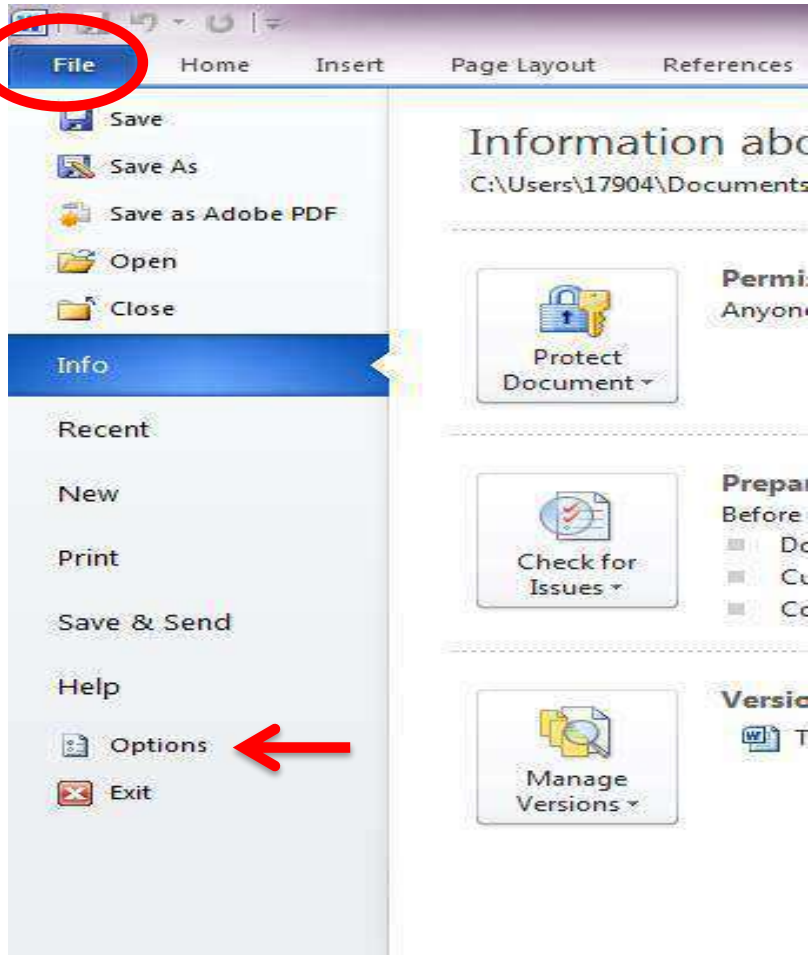
Race/Ethnicity

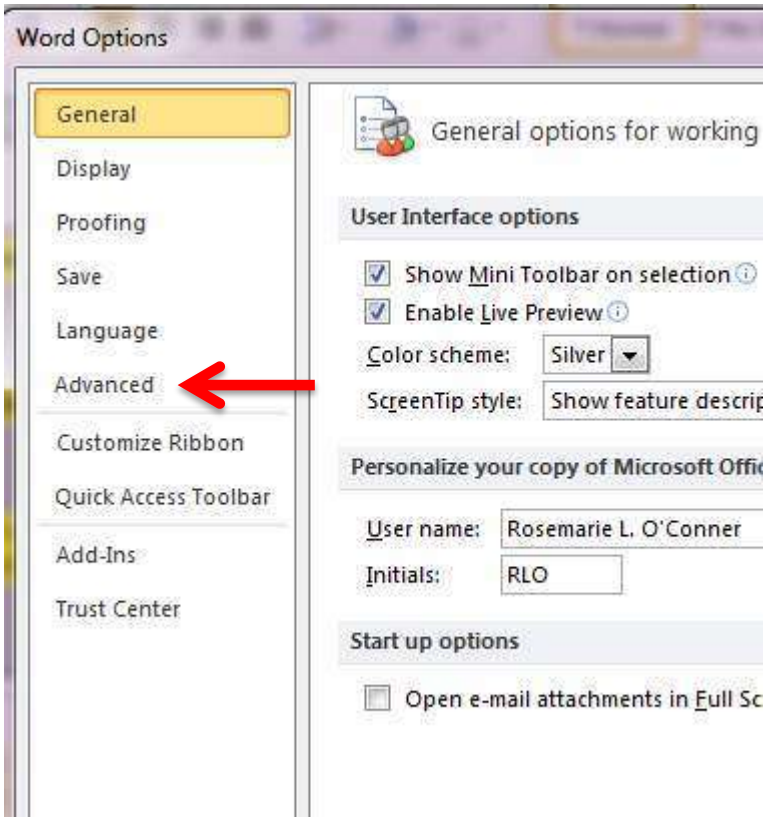
Asian:	0%	Hispanic:	16%
Black:	82%	Other:	1%
White:	1%		

2010-11 Baseline Student Performance – Percent Met Standard in Reading

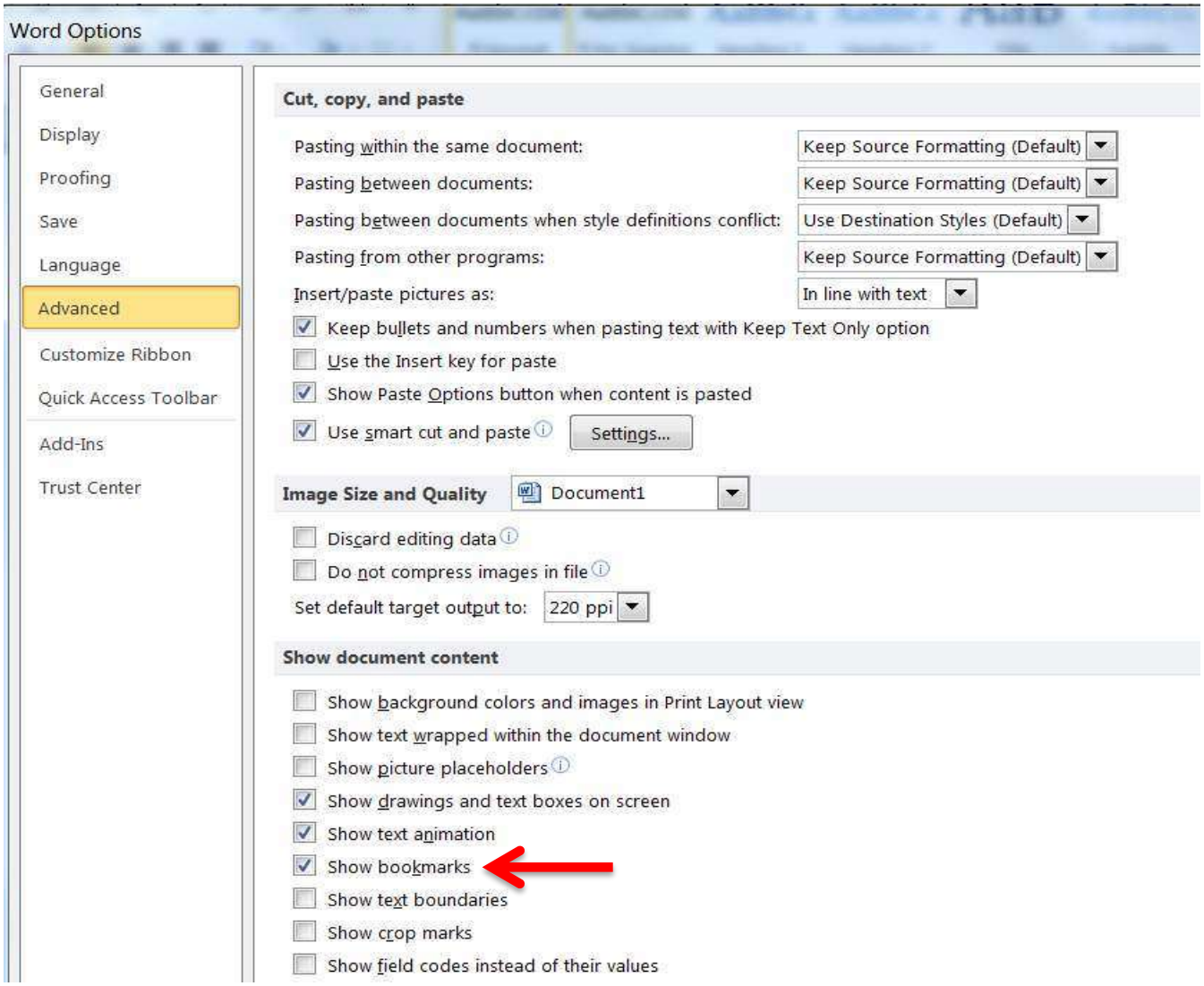


Show Bookmarks - PC



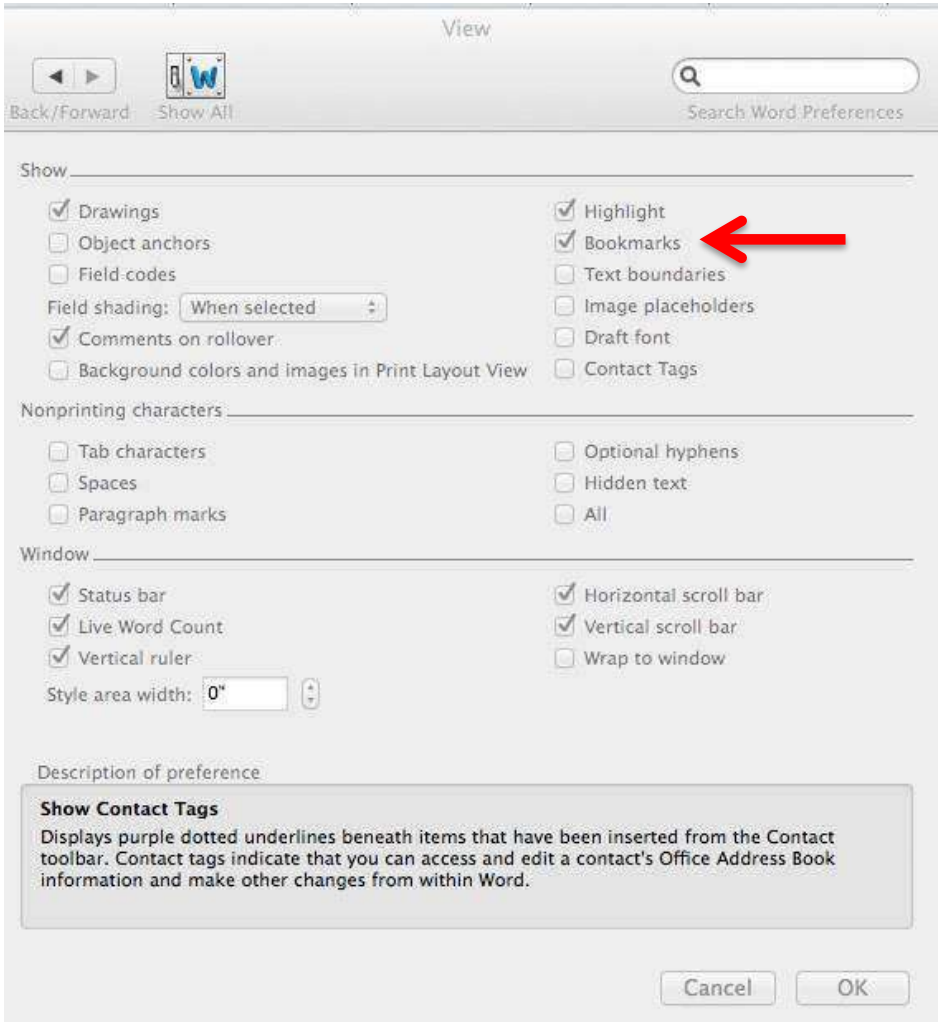


Show Bookmarks - PC

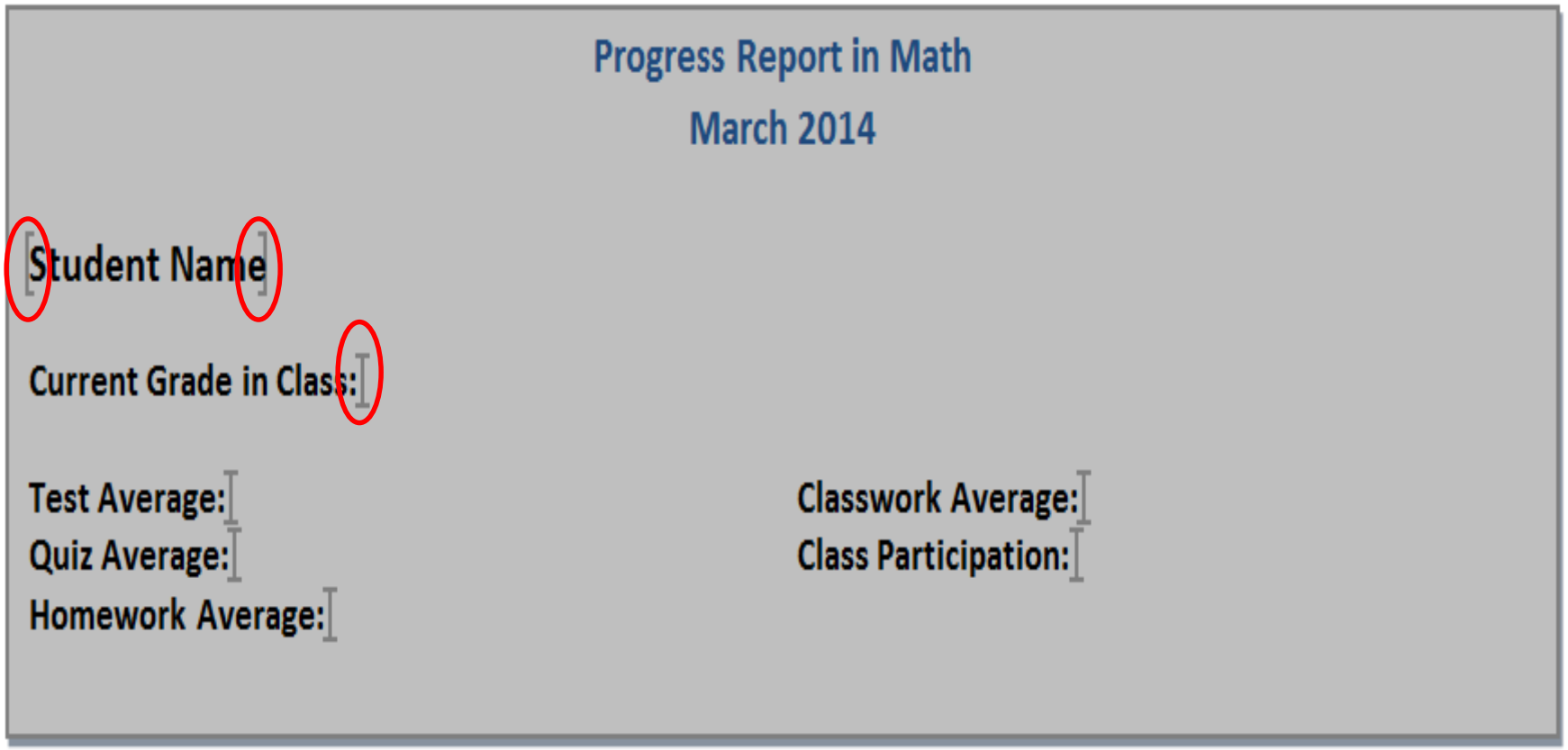


Show Bookmarks - Mac

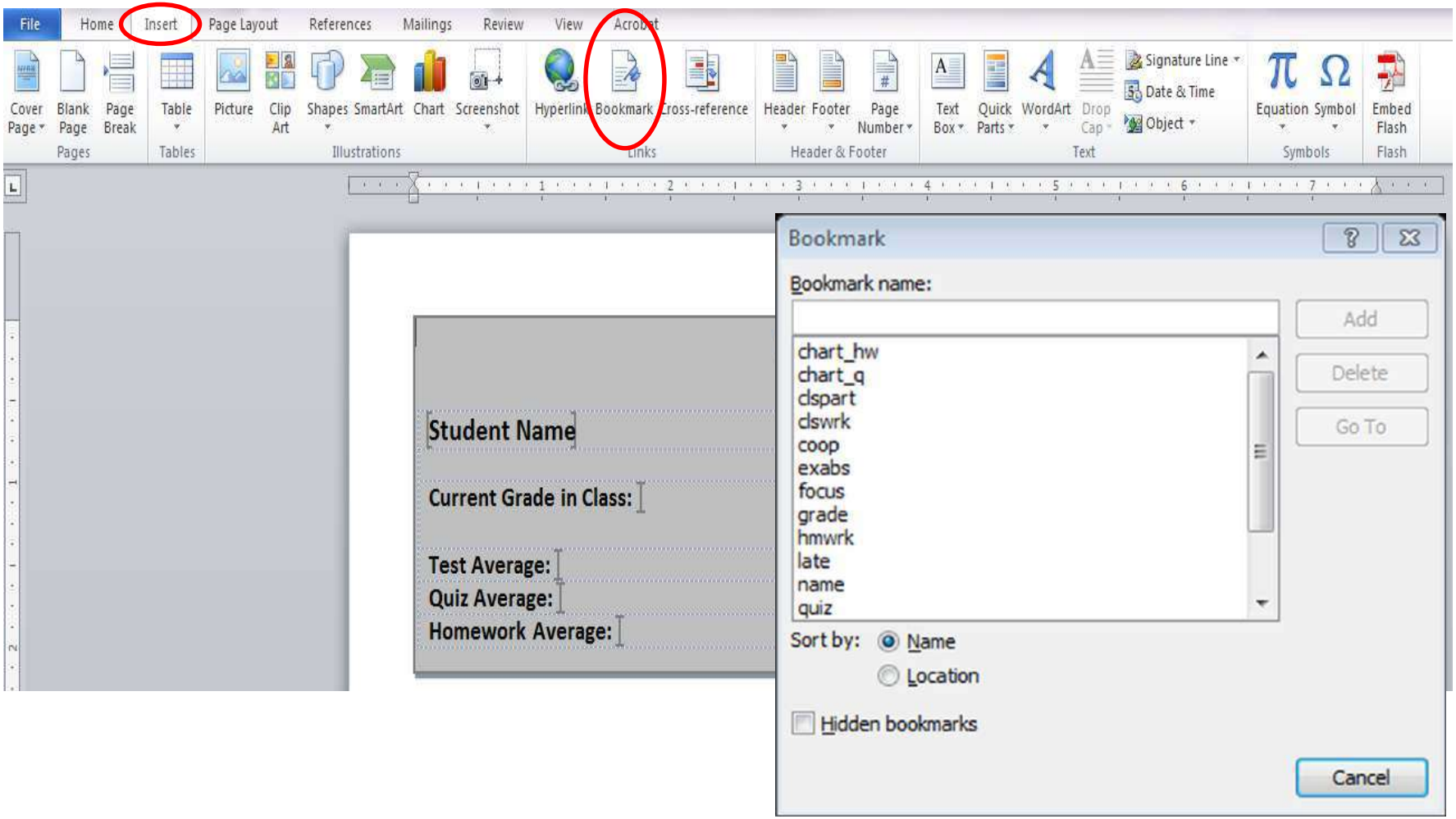
Show Bookmarks - Mac



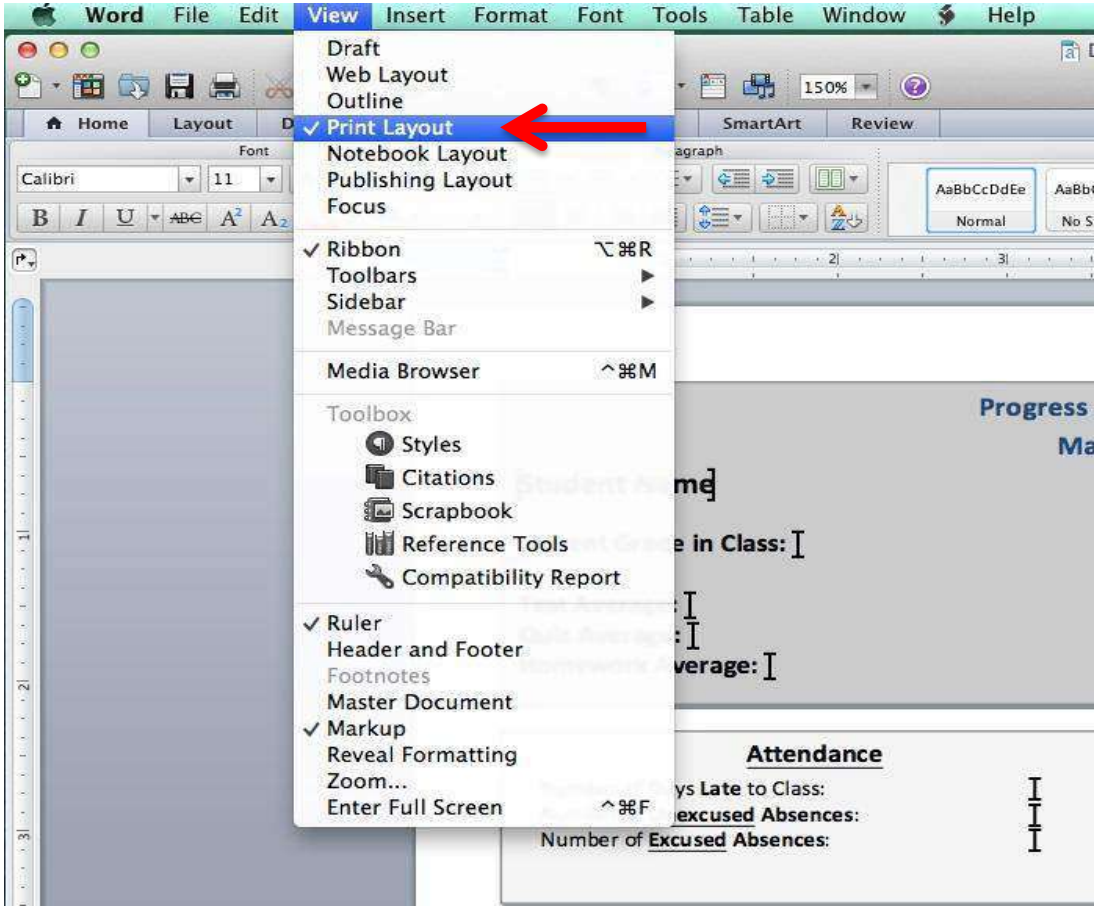
Word Template with Bookmarks



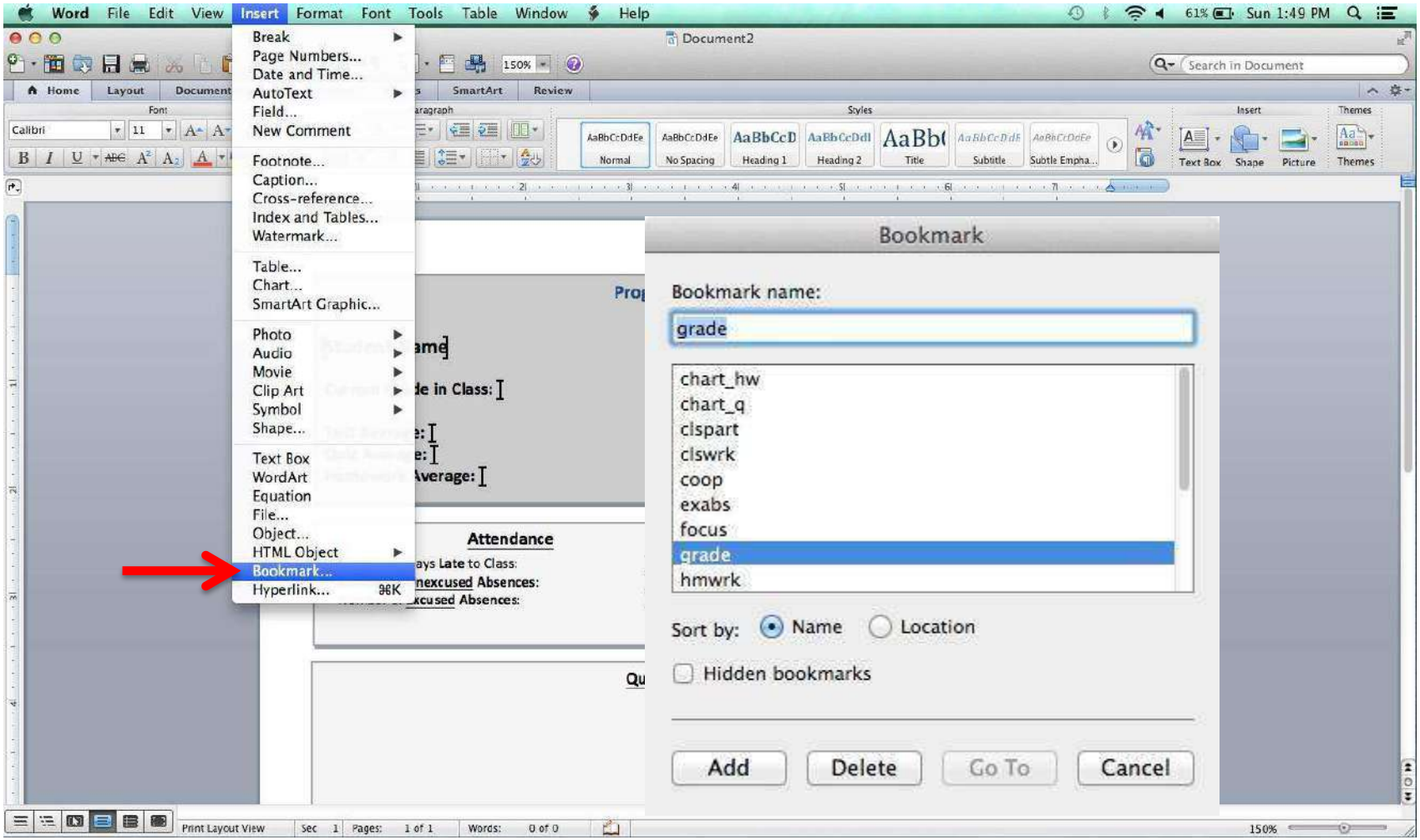
Adding Bookmarks in Word - PC



Adding Bookmarks in Word - Mac



Adding Bookmarks in Word - Mac



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Adding Bookmarks in Word

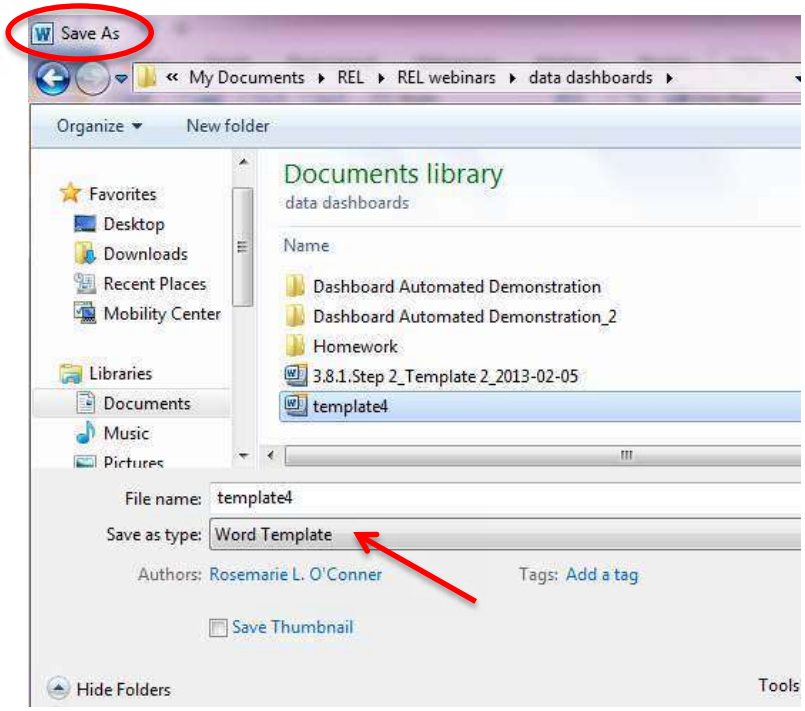
PC

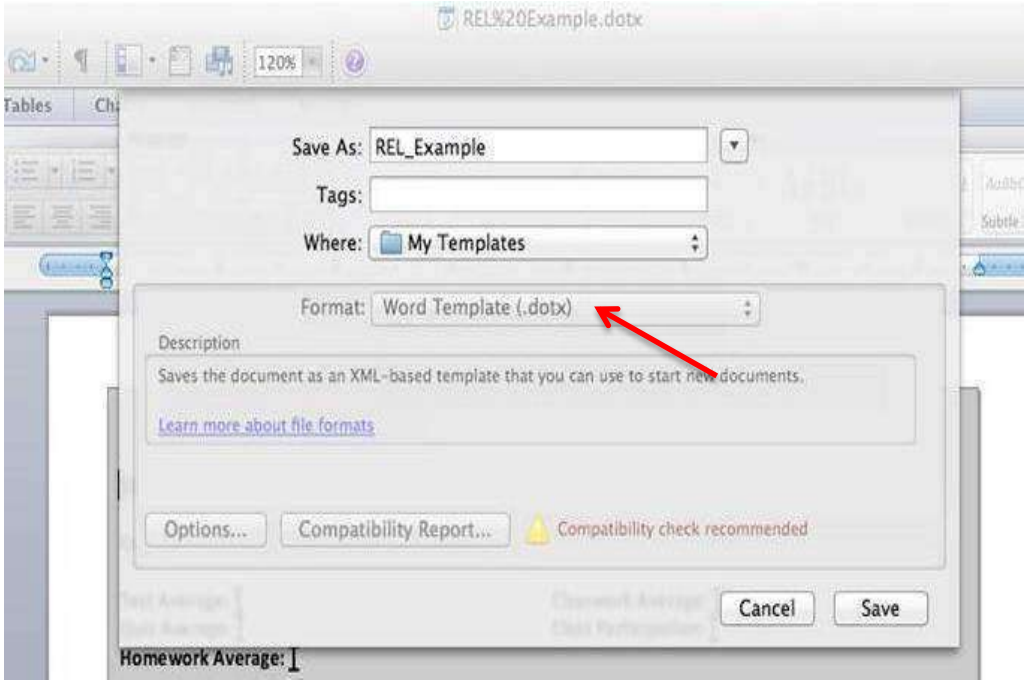
1. In the document, click where you want to insert a bookmark.
2. On the **Insert** tab, in the **Links** group, click **Bookmark**.
3. Under **Bookmark name**, type a name.
4. Click **Add**.

Mac

1. On the **View** menu, click **Print Layout**.
2. Click where you want to insert a bookmark.
3. On the **Insert** menu, click **Bookmark**.
4. Under **Bookmark name**, type a name.
5. Click **Add**.

Saving as a Word Template .dotx file





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Any Questions about inserting bookmarks?

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Now It's Your Turn...

Open up the word template file and add bookmarks for the following:

1. School Name (schname)
2. percentage of Asian students (asian)
3. percentage of Black students (black)
4. percentage of Hispanic students (hispanic)
5. percentage of White students (white)
6. percentage of Other students (other)
7. percentage of special education students (speced)
8. percentage of ELL students (ell)
9. Test scores in reading (chart_r)
10. Test scores in math (chart_m)

Bookmark names are listed in parentheses in **red**.

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Step 3: Organize the Data

Working with Excel

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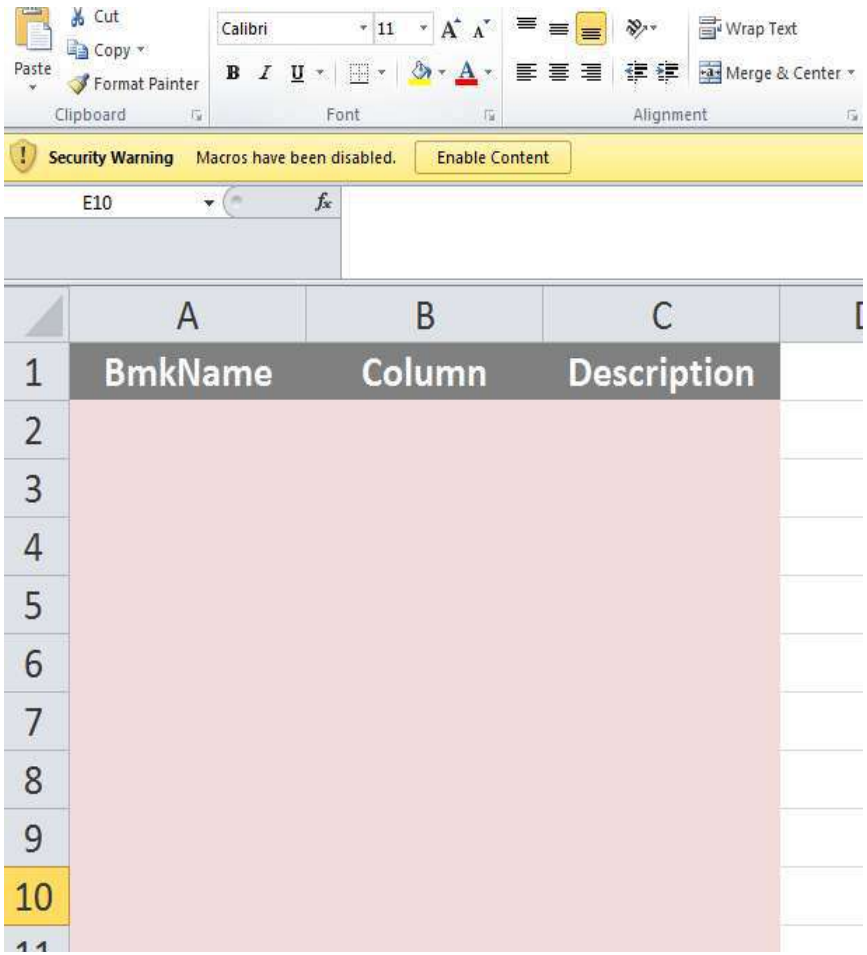
Data file: 4 sheets

1. Setup
2. Data
3. Charts
4. Code Info

Name	Grade	Test	Quiz	HW	CW	CP
Student Name	Current Grade	Test Average	Quiz Average	Homework Average	Classwork Average	Class Participation
1	2	3	4	5	6	7
Jennifer Allessio	66.5	73.5	86.3	44.2	62	Needs Improvement
Elizabeth Blair	82.0	73.5	82.5	89.8	82	Good
Gregory Burke	69.5	55.5	85	63.4	74	Needs Improvement
Chris Carlson	77.6	78	77.8	88.6	66	Needs Improvement
Sarah Cheroff	63.8	71	78.3	52	54	Needs Improvement
Joan Cloud	92.1	86	98.5	94	90	Good
Allison Collins	88.8	92	70.3	96.8	96	Good
Jamie Dowler	75.4	84.5	55.8	81.3	80	Good
Danielle Essex	92.6	97.5	85.8	91	96	Good
Kevin Fournier	93.2	96.5	84.8	95.3	96	Good
Ricardo Insalaco	83.2	88	80	92.9	72	Good
Michael Lau	79.4	80	78.5	83.1	76	Good
Heather Mastrosimone	79.3	86	80.5	82.7	68	Needs Improvement
Michael Orahood	82.9	65.5	81.8	90.4	94	Good
Kevin Ravenscroft	80.5	72.5	78.8	88.7	82	Good
Alex Regus	80.9	72	72.3	85.2	94	Good
Michael Simon	79.8	82.5	72	84.8	80	Good
Sarah Suska	84.9	72.5	70	96.9	100	Good
Stephanie Thibeau	80.5	75.5	76.5	89.9	80	Good
Andrea West	85.0	98.5	86.5	80.9	74	Good
Nicole Zak	83.3	82.5	83.5	81.3	86	Good

Setup | Data | Charts | Code info

Setup Sheet



	A	B	C
1	BmkName	Column	Description
2	CB1	11	Cooperation
3	CB2	12	Focus/ Attention
4	CB3	13	Respect
5	CB4	14	Self-Control
6	chart_hw	16	Homework chart
7	chart_q	15	Quiz chart
8	CP	7	Class Participation
9	CW	6	Classwork Average
10	EA	10	# Excused Absences
11	Grade	2	Current Grade
12	HW	5	Homework Average
13	Late	8	# Days Late
14	Name	1	Student Name
15	Quiz	4	Quiz Average
16	Test	3	Test Average
17	UA	9	# Unexcused Absences

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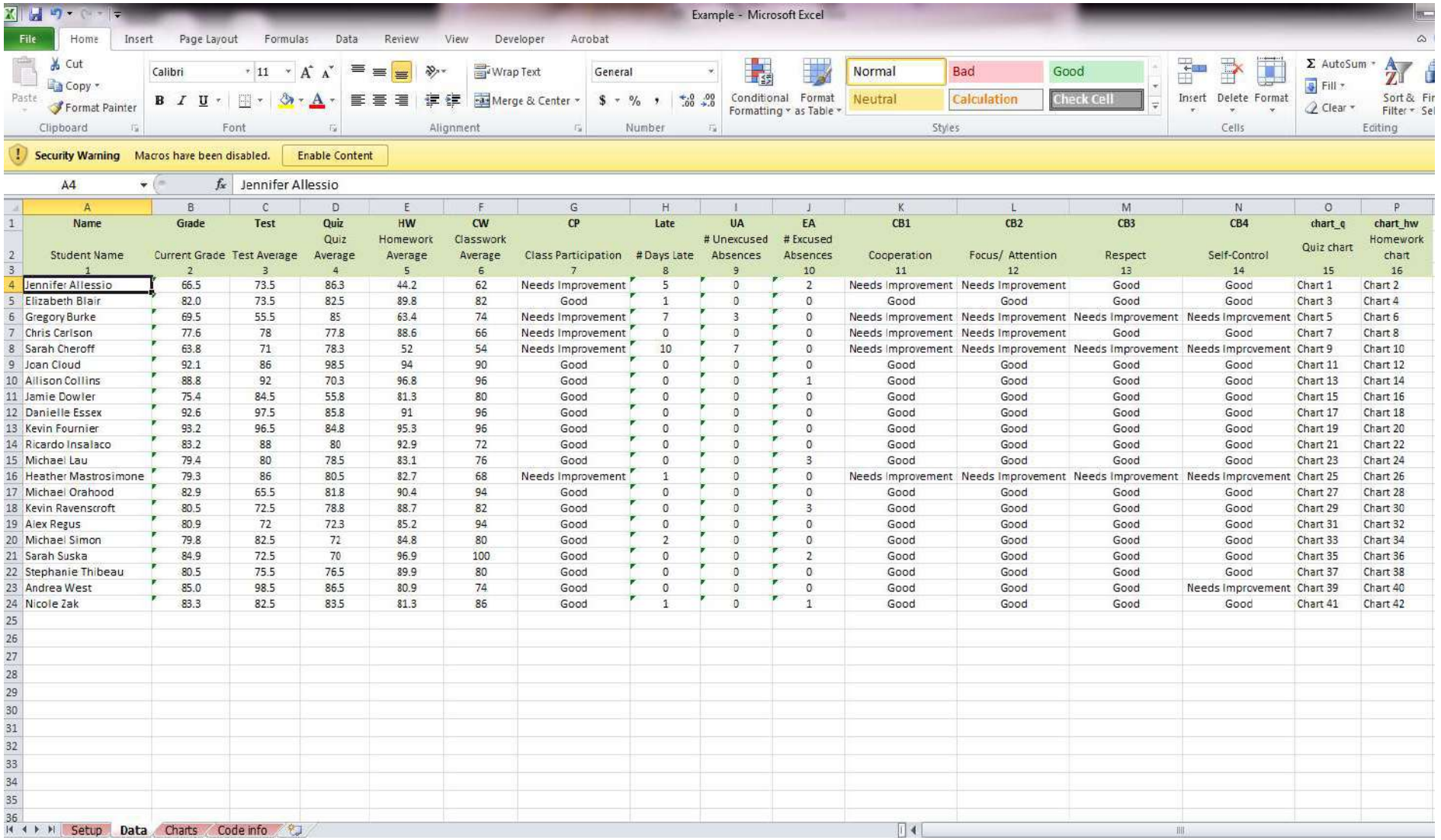
Data Sheet



Name	Grade	Test	Quiz	HW	CW	CP	Late	UA	EA	CB1	CB2	CB3	CB4	chart_q	chart_hw
Student Name	Current Grade	Test Average	Quiz Average	Homework Average	Classwork Average	Class Participation	# Days Late	# Unexcused Absences	# Excused Absences	Cooperation	Focus/ Attention	Respect	Self-Control	Quiz chart	Homework chart
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Jennifer Allessio	66.5	73.5	86.3	44.2	62	Needs Improvement	5	0	2	Needs Improvement	Needs Improvement	Good	Good	Chart 1	Chart 2
Elizabeth Blair	82.0	73.5	82.5	89.8	82	Good	1	0	0	Good	Good	Good	Good	Chart 3	Chart 4
Gregory Burke	69.5	55.5	85	63.4	74	Needs Improvement	7	3	0	Needs Improvement	Needs Improvement	Needs Improvement	Needs Improvement	Chart 5	Chart 6
Chris Carlson	77.6	78	77.8	88.6	66	Needs Improvement	0	0	0	Needs Improvement	Needs Improvement	Good	Good	Chart 7	Chart 8
Sarah Cheroff	63.8	71	78.3	52	54	Needs Improvement	10	7	0	Needs Improvement	Needs Improvement	Needs Improvement	Needs Improvement	Chart 9	Chart 10
Joan Cloud	92.1	86	98.5	94	90	Good	0	0	0	Good	Good	Good	Good	Chart 11	Chart 12
Allison Collins	88.8	92	70.3	96.8	96	Good	0	0	1	Good	Good	Good	Good	Chart 13	Chart 14
Jamie Dowler	75.4	84.5	55.8	81.3	80	Good	0	0	0	Good	Good	Good	Good	Chart 15	Chart 16
Danielle Essex	92.6	97.5	85.8	91	96	Good	0	0	0	Good	Good	Good	Good	Chart 17	Chart 18
Kevin Fournier	93.2	96.5	84.8	95.3	96	Good	0	0	0	Good	Good	Good	Good	Chart 19	Chart 20
Ricardo Insalaco	83.2	88	80	92.9	72	Good	0	0	0	Good	Good	Good	Good	Chart 21	Chart 22
Michael Lau	79.4	80	78.5	83.1	76	Good	0	0	3	Good	Good	Good	Good	Chart 23	Chart 24
Heather Mastrosimone	79.3	86	80.5	82.7	68	Needs Improvement	1	0	0	Needs Improvement	Needs Improvement	Needs Improvement	Needs Improvement	Chart 25	Chart 26
Michael Orahood	82.9	65.5	81.8	90.4	94	Good	0	0	0	Good	Good	Good	Good	Chart 27	Chart 28
Kevin Ravenscroft	80.5	72.5	78.8	88.7	82	Good	0	0	3	Good	Good	Good	Good	Chart 29	Chart 30
Alex Regus	80.9	72	72.3	85.2	94	Good	0	0	0	Good	Good	Good	Good	Chart 31	Chart 32
Michael Simon	79.8	82.5	72	84.8	80	Good	2	0	0	Good	Good	Good	Good	Chart 33	Chart 34
Sarah Suska	84.9	72.5	70	96.9	100	Good	0	0	2	Good	Good	Good	Good	Chart 35	Chart 36
Stephanie Thibeau	80.5	75.5	76.5	89.9	80	Good	0	0	0	Good	Good	Good	Good	Chart 37	Chart 38
Andrea West	85.0	98.5	86.5	80.9	74	Good	0	0	0	Good	Good	Good	Needs Improvement	Chart 39	Chart 40
Nicole Zak	83.3	82.5	83.5	81.3	86	Good	1	0	1	Good	Good	Good	Good	Chart 41	Chart 42

Data Sheet Compared to Setup Sheet

C	D	E	F	G	H
Test	Quiz	HW	CW	CP	Late
Test Average	Quiz Average	Homework Average	Classwork Average	Class Participation	# Days Late
3	4	5	6	7	8
73.5	86.3	44.2	62	Needs Improvement	5
73.5	82.5	89.8	82	Good	1
55.5	85	63.4	74	Needs Improvement	7
78	77.8	88.6	66	Needs Improvement	0
71	78.3	52	54	Needs Improvement	10
86	98.5	94	90	Good	0
92	70.3	96.8	96	Good	0
84.5	55.8	81.3	80	Good	0
97.5	85.8	91	96	Good	0
96.5	84.8	95.3	96	Good	0
88	80	92.9	72	Good	0
80	78.5	83.1	76	Good	0
86	80.5	82.7	68	Needs Improvement	1
65.5	81.8	90.4	94	Good	0
72.5	78.8	88.7	82	Good	0
72	72.3	85.2	94	Good	0
82.5	72	84.8	80	Good	2
72.5	70	96.9	100	Good	0
75.5	76.5	89.9	80	Good	0
98.5	86.5	80.9	74	Good	0
82.5	83.5	81.3	86	Good	1

	A	B	C
1	BmkName	Column	Description
2	CB1	11	Cooperation
3	CB2	12	Focus/ Attention
4	CB3	13	Respect
5	CB4	14	Self-Control
6	chart_hw	16	Homework chart
7	chart_q	15	Quiz chart
8	CP	7	Class Participation
9	CW	6	Classwork Average
10	EA	10	# Excused Absences
11	Grade	2	Current Grade
12	HW	5	Homework Average
13	Late	8	# Days Late
14	Name	1	Student Name
15	Quiz	4	Quiz Average
16	Test	3	Test Average
17	UA	9	# Unexcused Absences

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Now It's Your Turn...

- In the data file, complete the Setup sheet:
  - Fill in the information in the first two columns:
    1. "BmkName" (bookmark name)
    2. "Column" (the number of the column where the data that will replace the bookmark is located).

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Charts Sheet

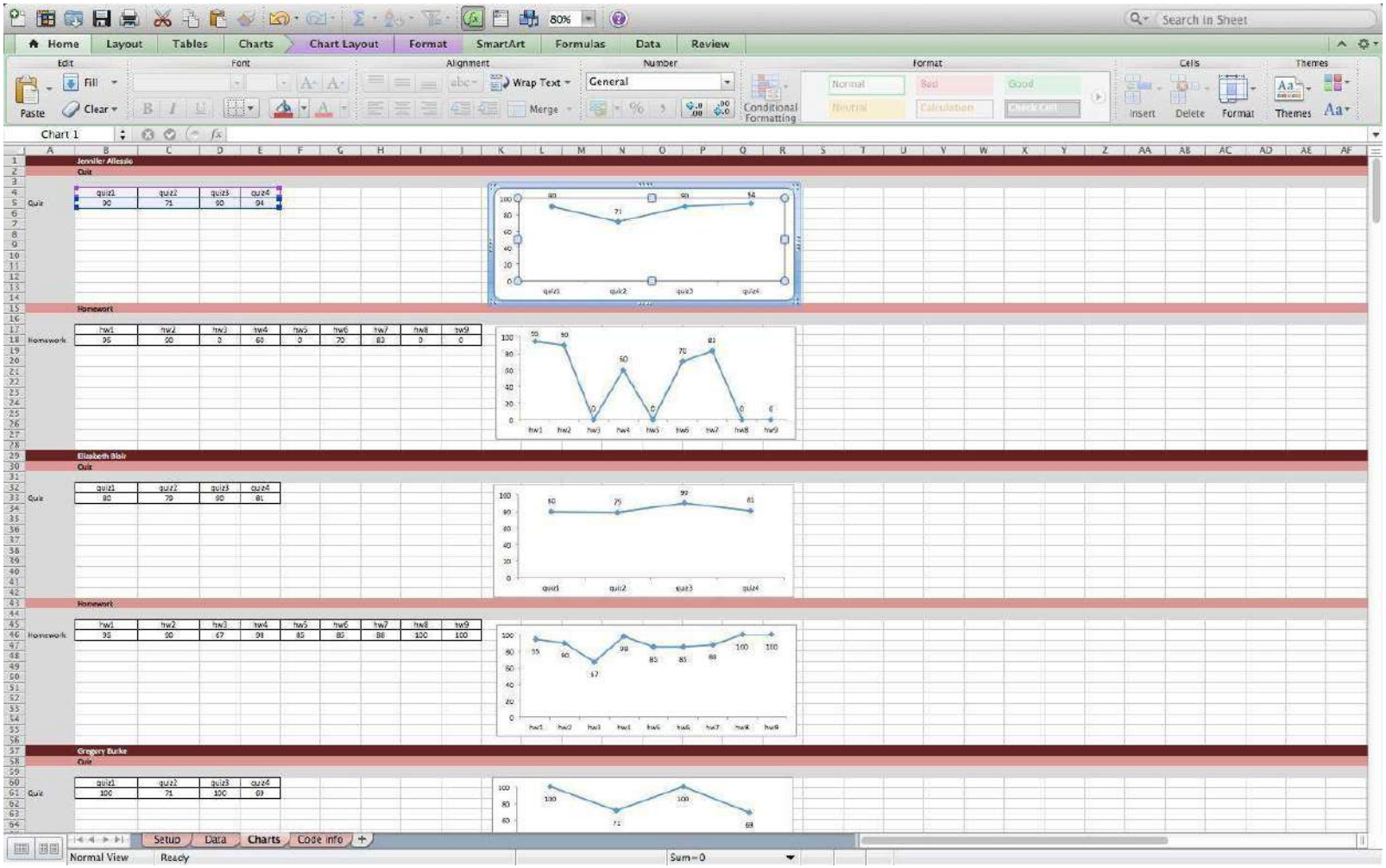
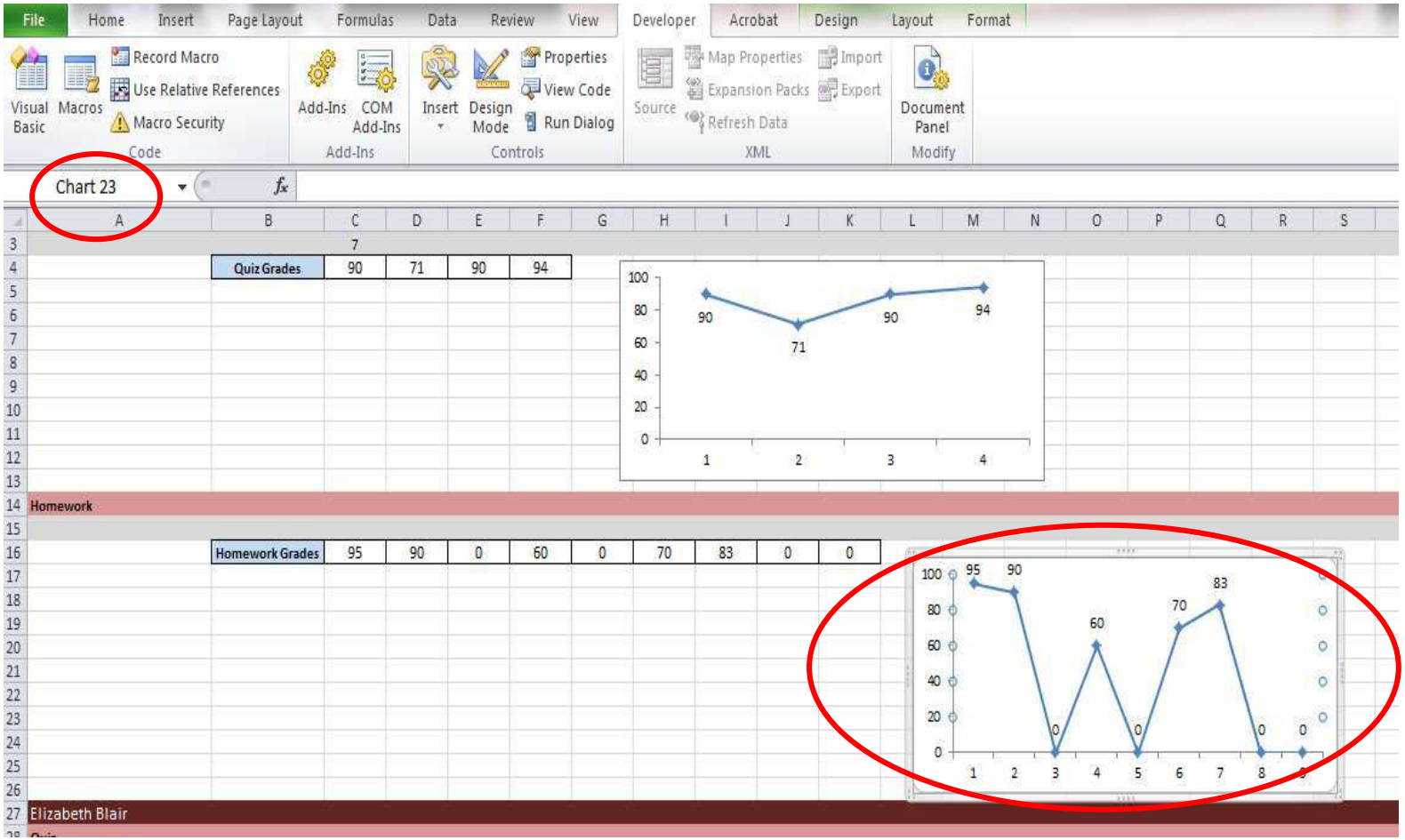
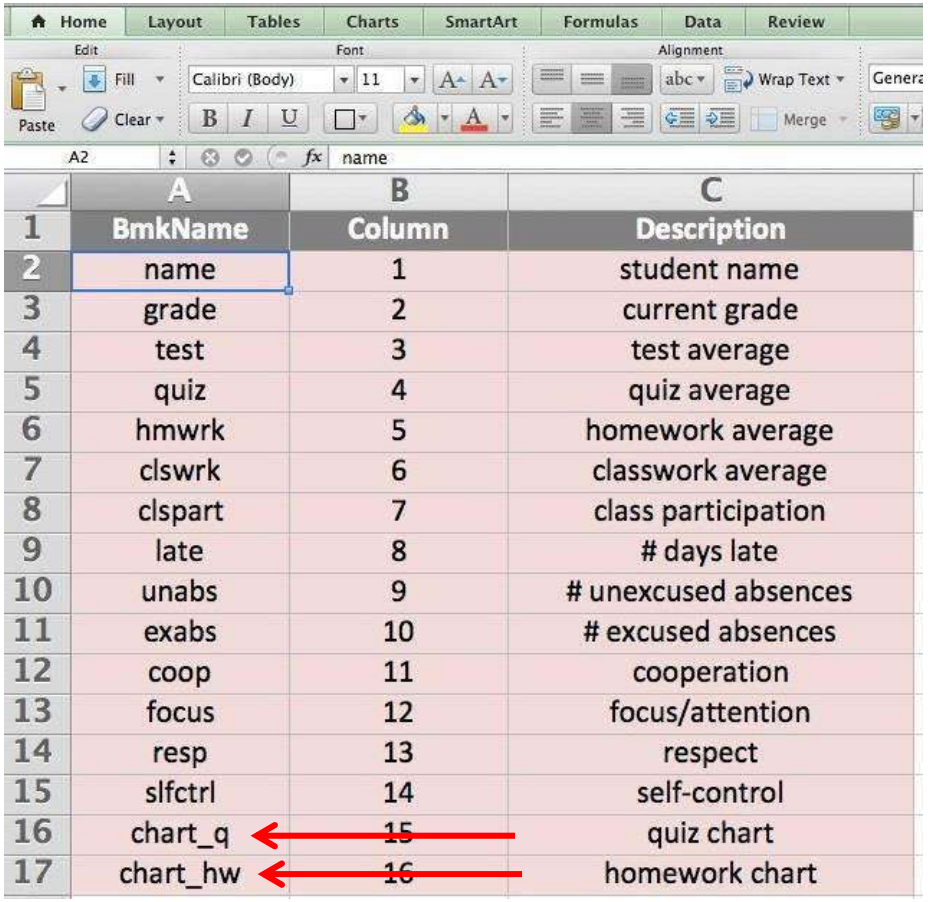


Chart Names Should Be Unique



Bookmark Names Start With chart_

Setup Sheet



	A	B	C
1	BmkName	Column	Description
2	name	1	student name
3	grade	2	current grade
4	test	3	test average
5	quiz	4	quiz average
6	hmwrk	5	homework average
7	clswrk	6	classwork average
8	clspart	7	class participation
9	late	8	# days late
10	unabs	9	# unexcused absences
11	exabs	10	# excused absences
12	coop	11	cooperation
13	focus	12	focus/attention
14	resp	13	respect
15	slfctrl	14	self-control
16	chart_q	15	quiz chart
17	chart_hw	16	homework chart

Data Sheet

M	N	O	P	Q
resp	slfctrl	chart_q	chart_hw	
respect	self-control	quiz chart	homework chart	
13	14	15	16	
Good	Good	Chart 1	Chart 2	
Good	Good	Chart 3	Chart 4	
s Improves	Improve	Chart 5	Chart 6	
Good	Good	Chart 7	Chart 8	
s Improves	Improve	Chart 9	Chart 10	
Good	Good	Chart 11	Chart 12	
Good	Good	Chart 13	Chart 14	
Good	Good	Chart 15	Chart 16	
Good	Good	Chart 17	Chart 18	
Good	Good	Chart 19	Chart 20	
Good	Good	Chart 21	Chart 22	
Good	Good	Chart 23	Chart 24	
s Improves	Improve	Chart 25	Chart 26	
Good	Good	Chart 27	Chart 28	

Code Info Sheet: Specifications

	A	B	C	D	E
1		This will be used in the code:		Here's an example:	
2	Row in which data starts (on the Data sheet)	**4**		6	
3					
4		Create Reports			
5					
6					
7					

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Name	Grade	Test	Quiz	HW	CW	CP	Late	UA	EA	CB1	CB2	CB3	CB4	chart_q	chart_hw
2	Student Name	Current Grade	Test Average	Quiz Average	Homework Average	Classwork Average	Class Participation	# Days Late	# Unexcused Absences	# Excused Absences	Cooperation	Focus/ Attention	Respect	Self-Control	Quiz chart	Homework chart
3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4	Jennifer Allessio	66.5	73.5	86.3	44.2	62	Needs Improvement	5	0	2	Needs Improvement	Needs Improvement	Good	Good	Chart 2	Chart 23
5	Elizabeth Blair	82.0	73.5	82.5	89.8	82	Good	1	0	0	Good	Good	Good	Good	Chart 3	Chart 4
6	Gregory Burke	69.5	55.5	85	63.4	74	Needs Improvement	7	3	0	Needs Improvement	Needs Improvement	Needs Improvement	Needs Improvement	Chart 5	Chart 6
7	Chris Carlson	77.6	78	77.8	88.6	66	Needs Improvement	0	0	0	Needs Improvement	Needs Improvement	Good	Good	Chart 7	Chart 8
8	Sarah Cheroff	63.8	71	78.3	52	54	Needs Improvement	10	7	0	Needs Improvement	Needs Improvement	Needs Improvement	Needs Improvement	Chart 9	Chart 10
9	Joan Cloud	92.1	86	98.5	94	90	Good	0	0	0	Good	Good	Good	Good	Chart 11	Chart 12
10	Allison Collins	88.8	92	70.3	96.8	96	Good	0	0	1	Good	Good	Good	Good	Chart 13	Chart 14
11	Jamie Dowler	75.4	84.5	55.8	81.3	80	Good	0	0	0	Good	Good	Good	Good	Chart 15	Chart 16
12	Danielle Essex	92.6	97.5	85.8	91	96	Good	0	0	0	Good	Good	Good	Good	Chart 17	Chart 18
13	Kevin Fournier	93.2	96.5	84.8	95.3	96	Good	0	0	0	Good	Good	Good	Good	Chart 19	Chart 20
14	Ricardo Insalaco	83.2	88	80	92.9	72	Good	0	0	0	Good	Good	Good	Good	Chart 21	Chart 22
15	Michael Lau	79.4	80	78.5	83.1	76	Good	0	0	3	Good	Good	Good	Good	Chart 1	Chart 24
16	Heather Mastrosimone	79.3	86	80.5	82.7	68	Needs Improvement	1	0	0	Needs Improvement	Needs Improvement	Needs Improvement	Needs Improvement	Chart 25	Chart 26
17	Michael Orahood	82.9	65.5	81.8	90.4	94	Good	0	0	0	Good	Good	Good	Good	Chart 27	Chart 28
18	Kevin Ravenscroft	80.5	72.5	78.8	88.7	82	Good	0	0	3	Good	Good	Good	Good	Chart 29	Chart 30
19	Alex Regus	80.9	72	72.3	85.2	94	Good	0	0	0	Good	Good	Good	Good	Chart 31	Chart 32

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Any questions about organizing data in Excel?

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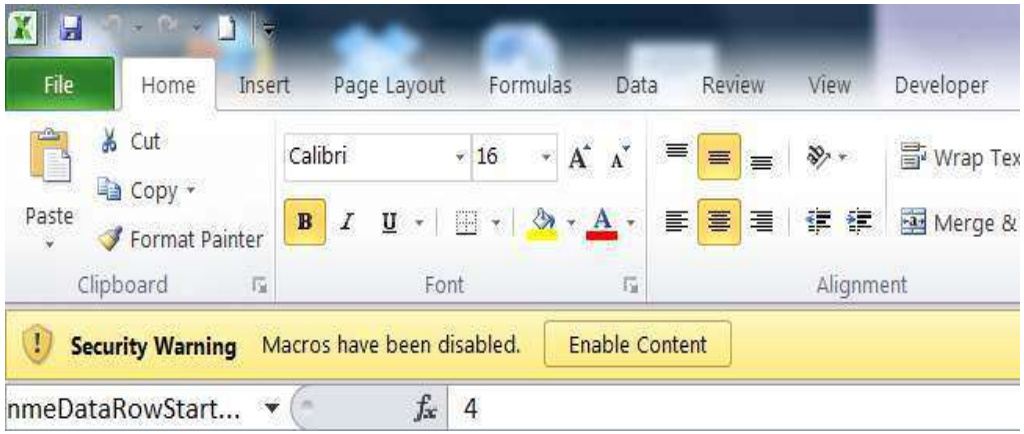
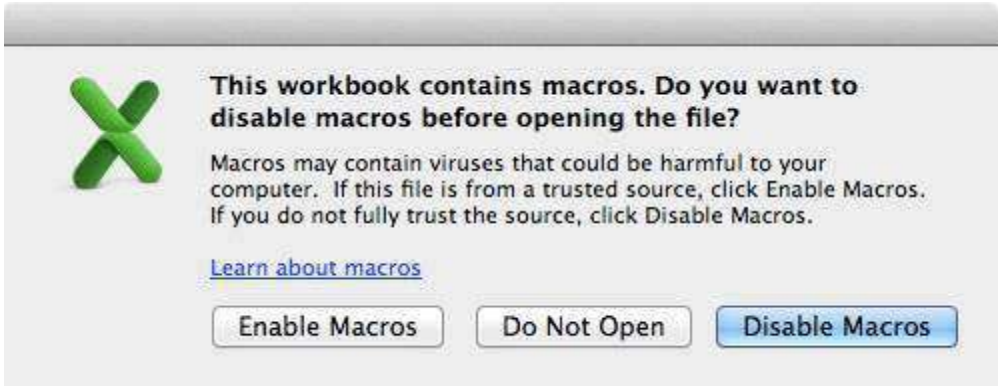
Step 4: Run the Code

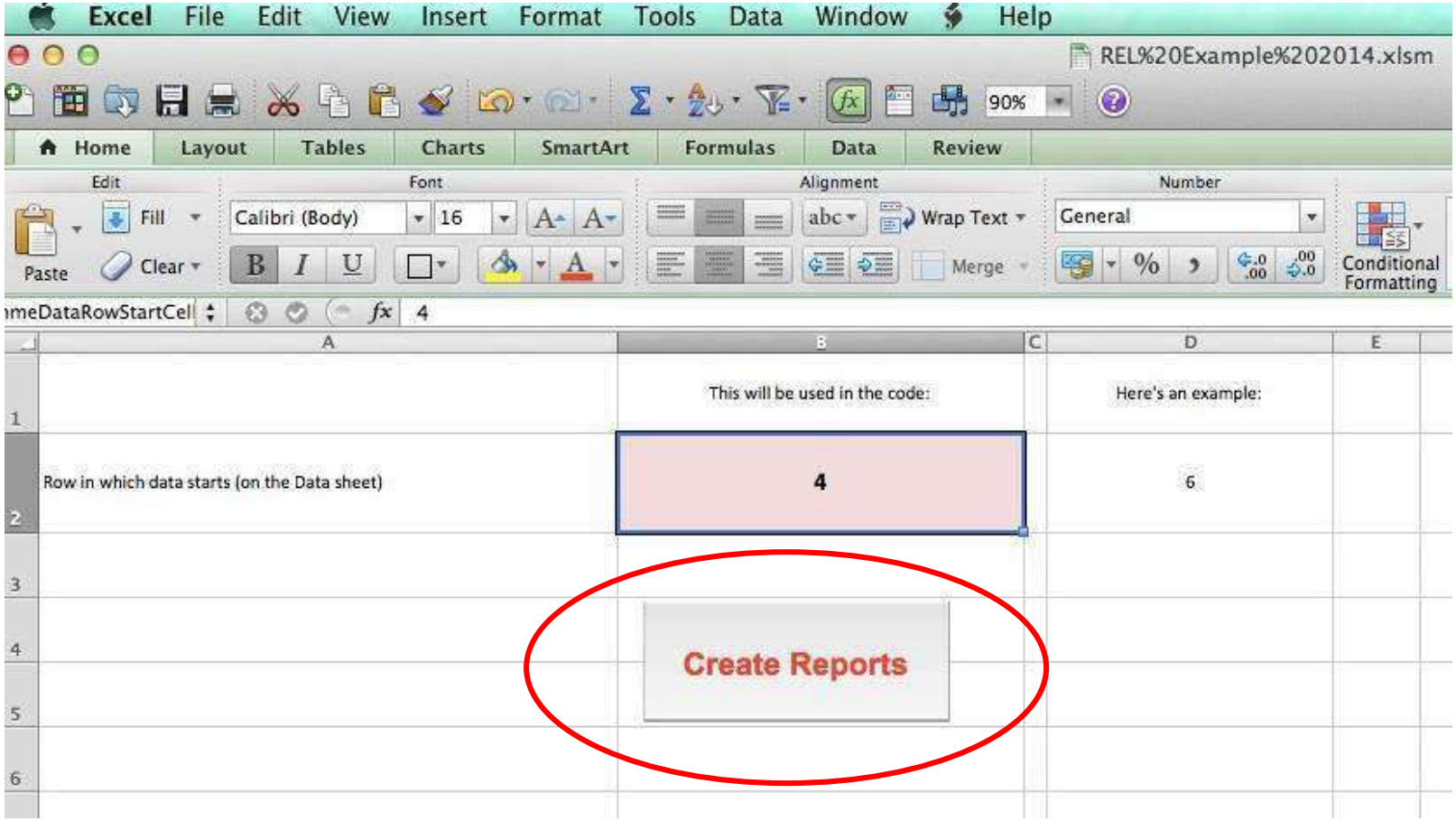
Running the Macro

Enable the Macro





Run the Macro



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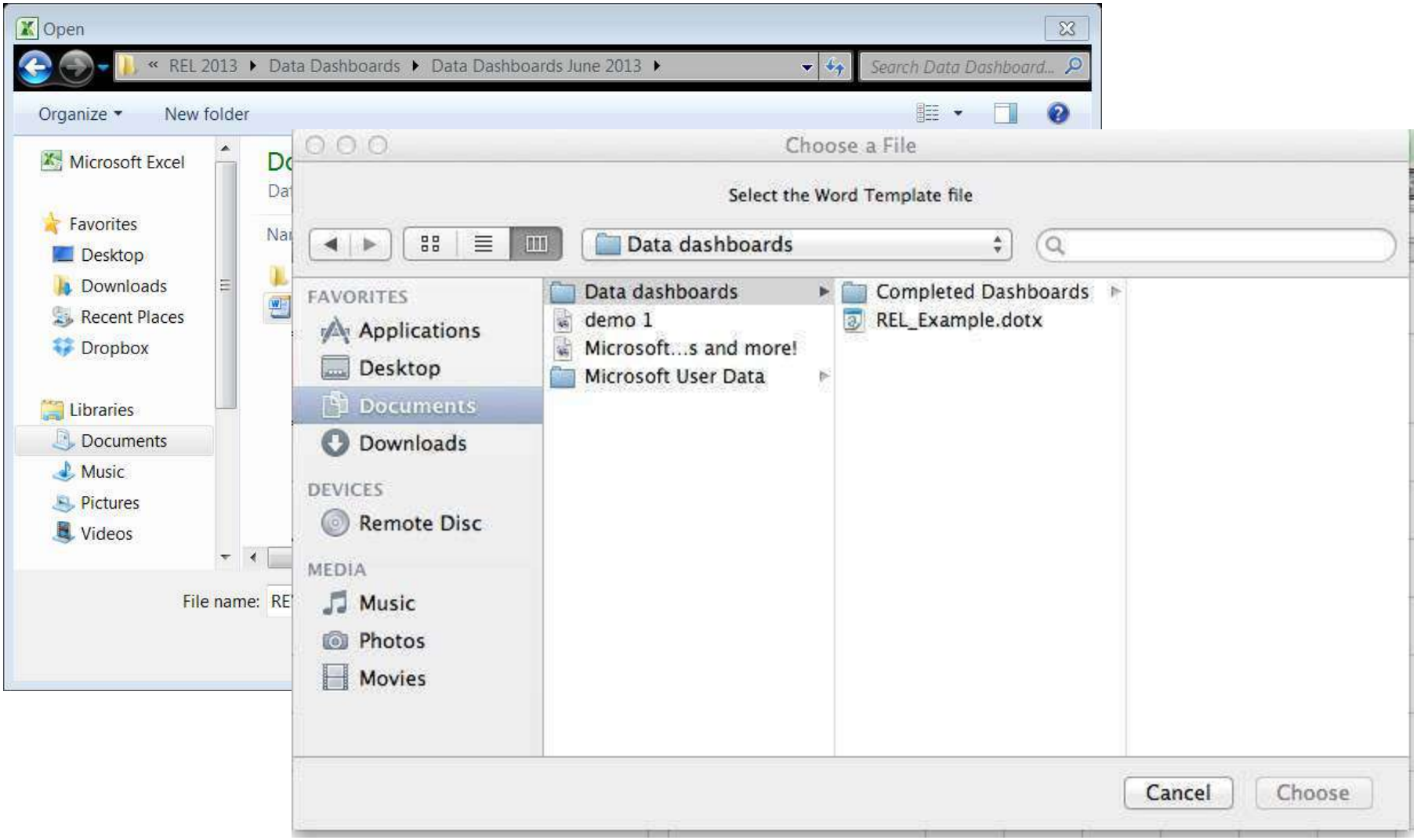
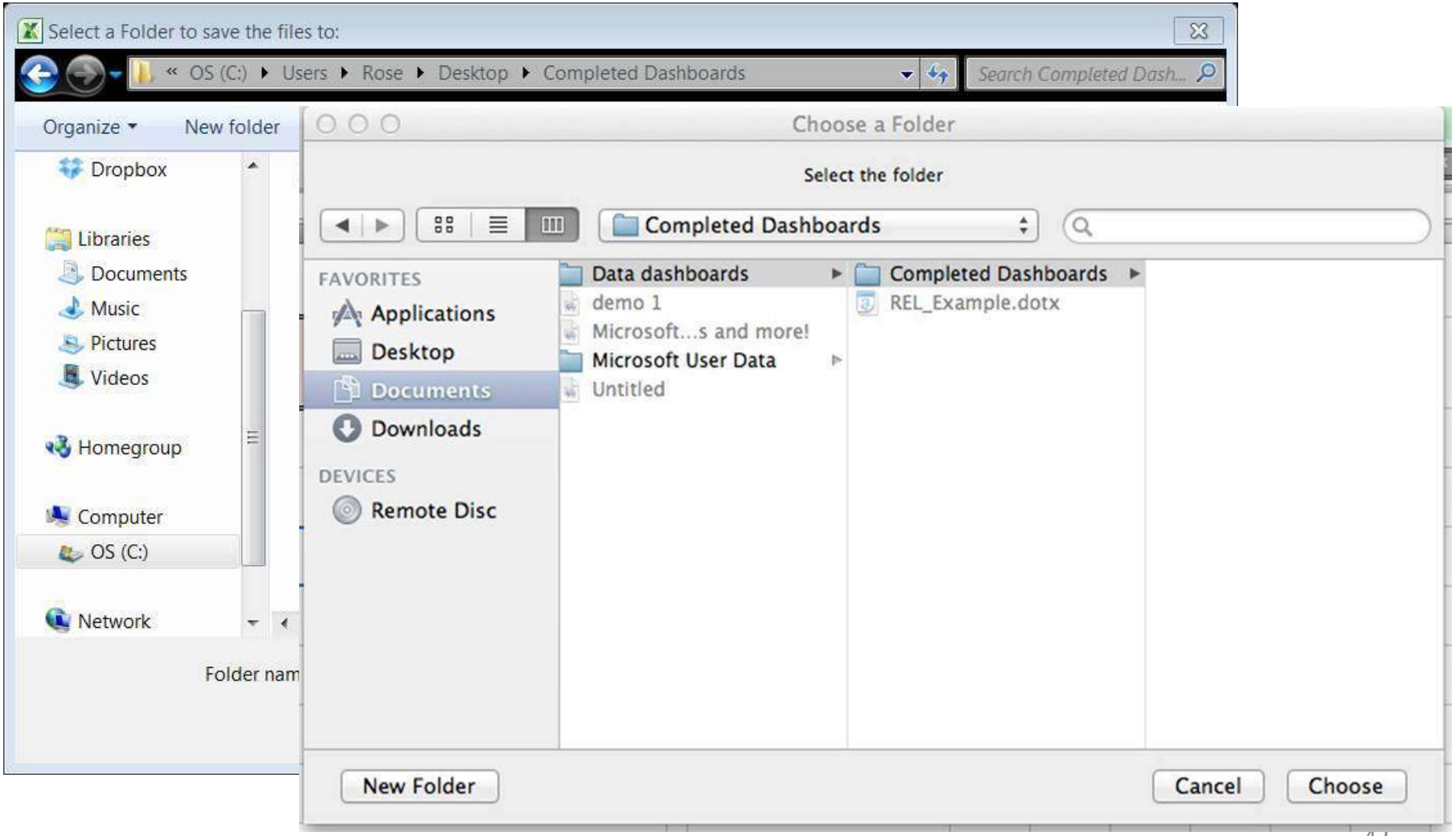
Select Word Template File



Select Folder Location



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Are there any questions about the automation process?

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Now It's Your Turn..

- In the data file, complete the Code Info sheet:
  - Fill in the shaded box with the specification to run your data
  - Run the Macro!

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Any final questions?

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Resources

- Dashboards
  - http://i.dell.com/sites/content/public/solutions/k12/en/Documents/education-dashboard-cde11-special-report-q3.pdf
- Excel Basics – Creating Charts
  - http://office.microsoft.com/en-us/excel-help/create-a-chart-from-start-to-finish-HP010342356.aspx
- Macros
  - http://www.excel-easy.com/vba.html

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Thank you!

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