



Brush Up Your Office Excel



Dr. Kemal UÇAK

Electrical and Electronics Engineering

Muğla Sıtkı Koçman University

Date: 11.10.2021

Version 11.10.2021

EEM 1003 Computer Programming I

Muğla

-2021-

Abstract

In this lecture, it has been aimed to present practical information related to the Office Excel for undergraduate students. For this purpose, fundamental subjects are explained in detail with pictures.

Table of Contents

Table of Contents

Abstract	3
Table of Contents	4
List of Figures	6
1 Introduction	8
2 General Structure of EXCEL	8
2.1 File Title Bar and Worksheets	9
2.2 Menu Palette	9
2.3 Selected Cell Indicator	9
2.4 Formulation Bar	9
2.5 Columns and Rows	9
3 EXCEL Cell=Variable	9
3.1 Assign Value as Number and String	10
3.2 Assigning Data between cells via Basic Mathematical Formulations	10
3.3 Data Transfer among Worksheets	11
3.3 Cell Colors	13
3.4 AND, OR, IF –ELSE Statement	14
3.5 Pulling Data from Internet (Import Data from Web into Excel)	19
3.6 Determine Print Area (Printer Settings)	26
4 Application & Project	29
5 Conclusion	31

List of Figures

Şekil 1:EXCEL Main Page	8
Şekil 2: Assigning Value or String	10
Şekil 3:Summation.....	11
Şekil 4: Input Variables (Cell B2 and B3), Output Variable (E3)	11
Şekil 5:Data Transfer among Worksheets.....	13
Şekil 6: Specific Area to work.....	14
Şekil 7:Mathematical Formulation	15
Şekil 8: Spreading Formulation to whole column(Drag the formulation throughout the column)	16
Şekil 9:Automatic Formulation	16
Şekil 10: IF, AND Statements.....	17
Şekil 11: Spreading IF AND statement to whole column.....	18
Şekil 12: Final EXCEL	18
Şekil 13: Take data from web.....	19
Şekil 14: Some Warnings	20
Şekil 15: Enter the WEB address that you want to pull data and then click go	20
Şekil 16: The WEB site opens in EXCEL and you can show YELLO arrow where you can pull data	21
Şekil 17: Click the yellow arrow to obtain green OK symbol	22
Şekil 18: Change the data transfer information.....	23
Şekil 19:Data is transferred to excel cells	24
Şekil 20: Transfer of All selected data	25
Şekil 21: Simple Investment Program.....	25
Şekil 22:Original Excel File without Print Area	26
Şekil 23: Loss of Information at right hand side of the document.....	27

Şekil 24:Selection of the Print Region in Excel File.....	28
Şekil 25:Determination of Print Region	28
Şekil 26: Output File with Print Region.....	29
Şekil 27: Budget EXCEL Program	31

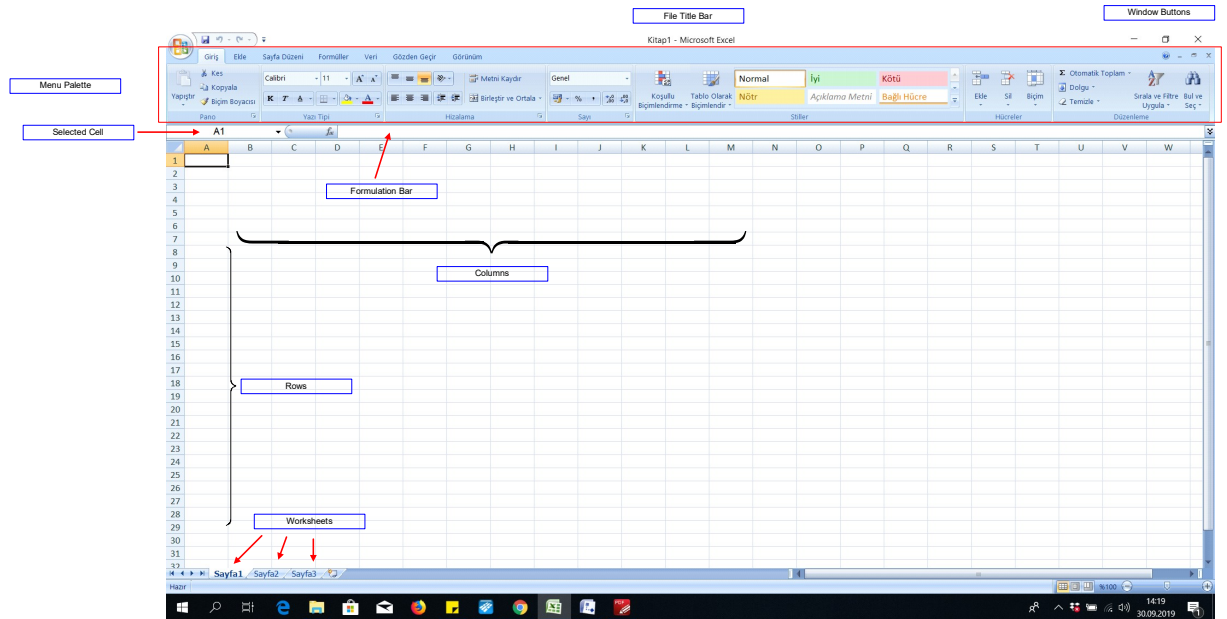


1 Introduction

In this report, it has been aimed to introduce crucial information related to EXCEL for Electrical and Electronics Engineering undergraduate students. For this purpose, the subjects are eased via explicit Figures to present details.

2 General Structure of EXCEL

The main page of the Excel is illustrated as follows:



Şekil 1: EXCEL Main Page

It contains the followings:

- File Title Bar
- Worksheets

- Menu Palette
- Selected Cell Indicator
- Formulation Bar
- Columns and Rows

2.1 File Title Bar and Worksheets

A file can be composed of various worksheets. It is possible to change the name of the worksheets. Worksheets can be linked together as formulations. In other words, it is possible to assign the value of any variable in one worksheet to another.

2.2 Menu Palette

Menu Palette includes various submenus such as Page Layout, Formulations, Add, Data etc.

2.3 Selected Cell Indicator

The selected cell is illustrated in selected cell indicator.

2.4 Formulation Bar

In order to define a formulation for any cell, it is required to utilize Formulation Bar.

2.5 Columns and Rows

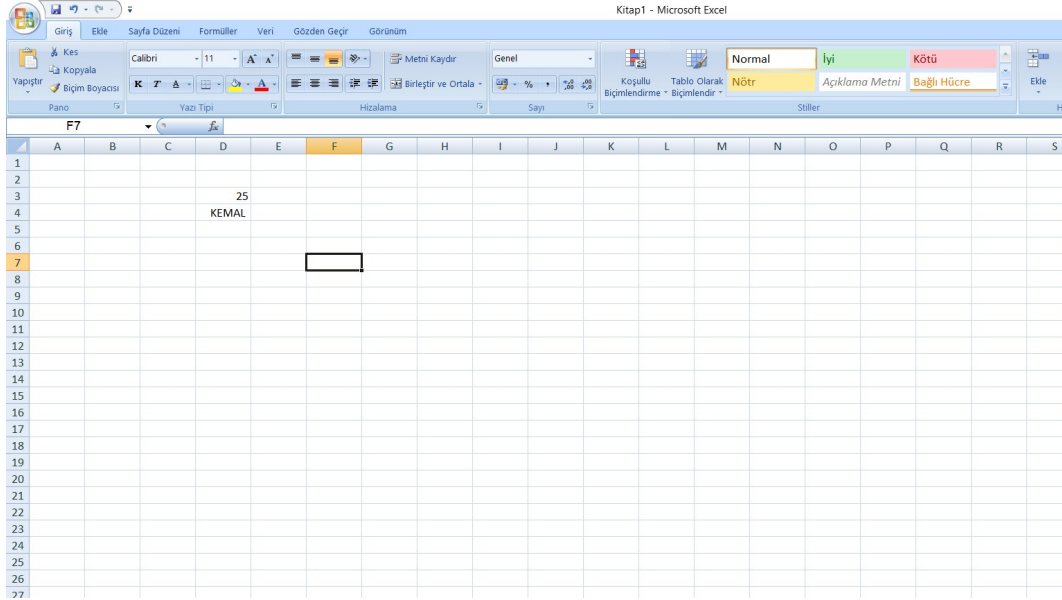
The excel worksheet is composed of columns and rows such as matrix. Each cell can be considered as a separate variable.

3 EXCEL Cell=Variable

The cell structure in Excel can be considered as variable. Therefore, it is possible to assign a value or mathematical formulation to any cell.

3.1 Assign Value as Number and String

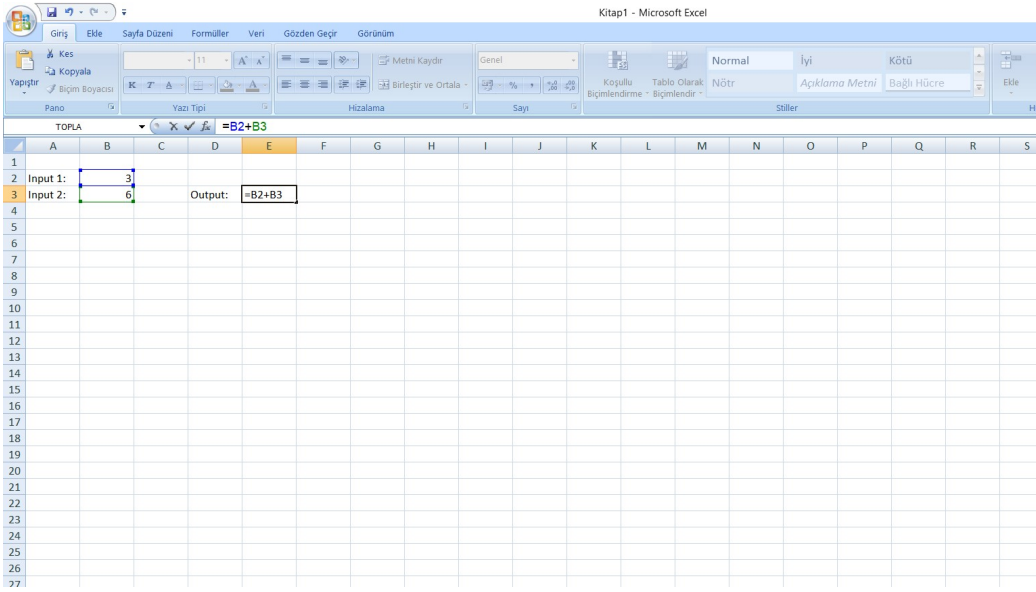
It is possible assign not only numbers but also strings to Excel cells.



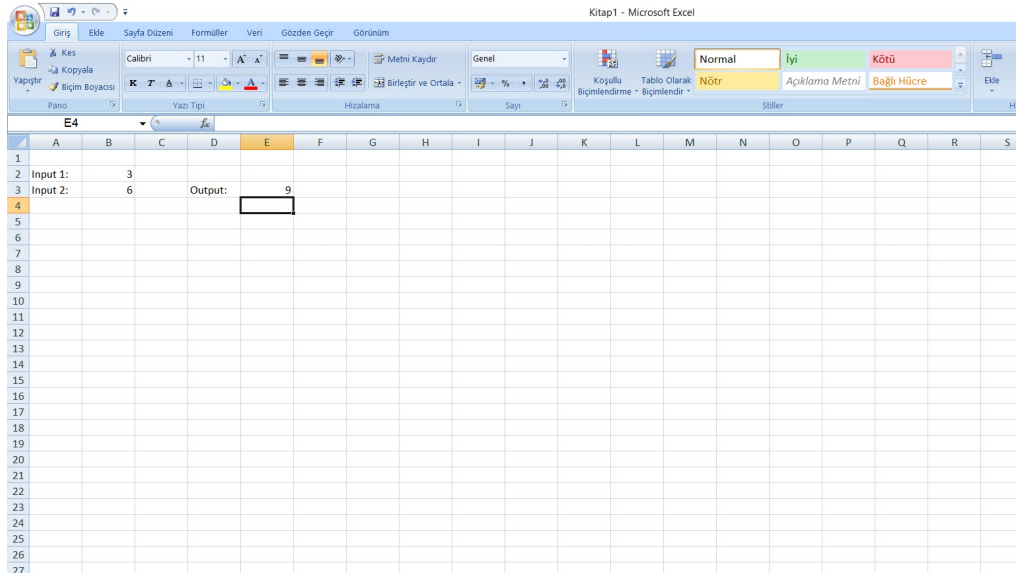
Şekil 2: Assigning Value or String

3.2 Assigning Data between cells via Basic Mathematical Formulations

The values assigned to Cell B2 and B3 are utilized to assign a new value to Cell E3.



Şekil 3:Summation

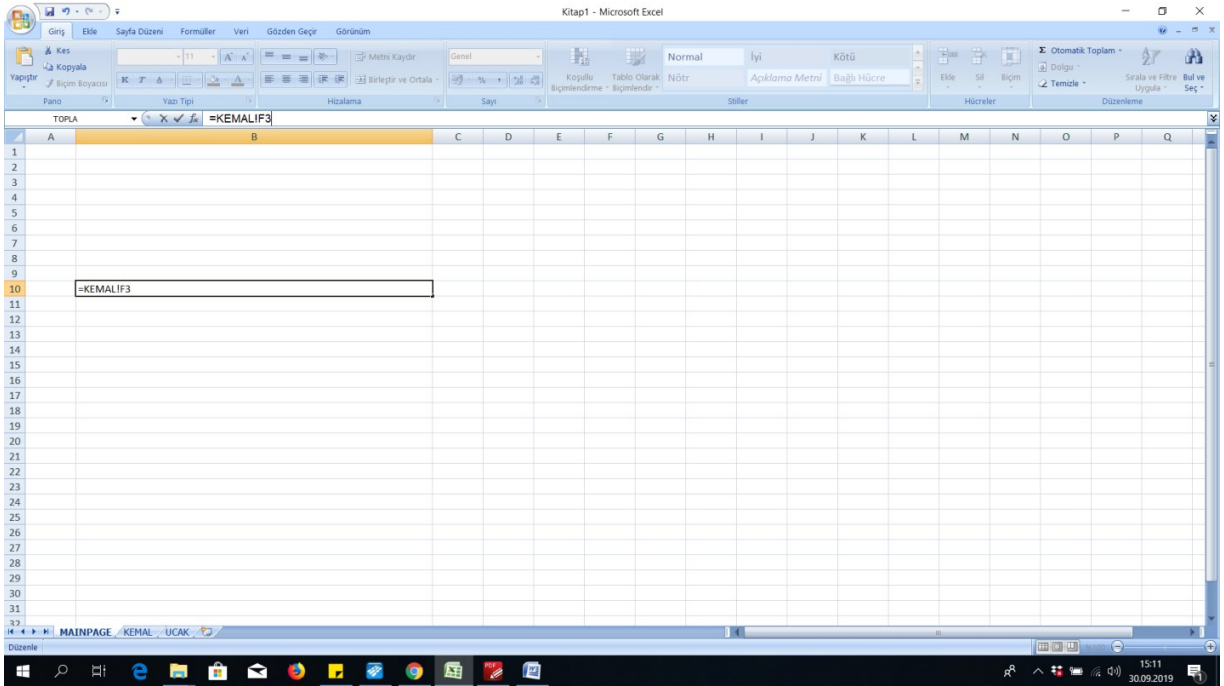
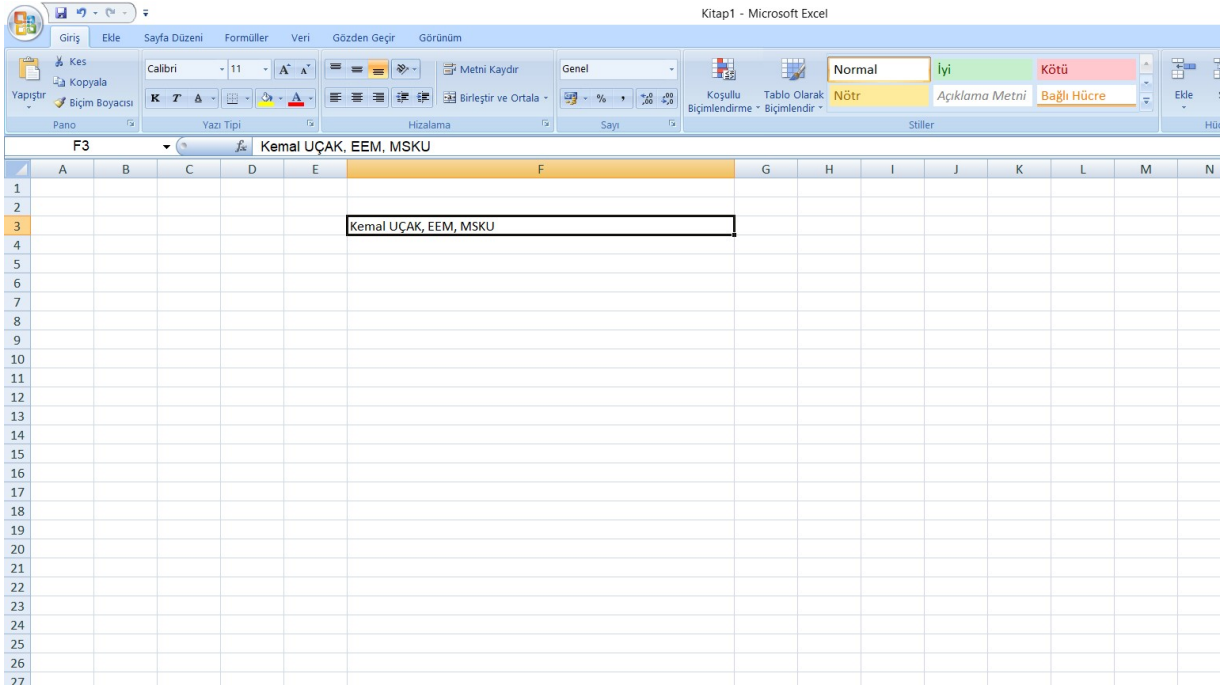


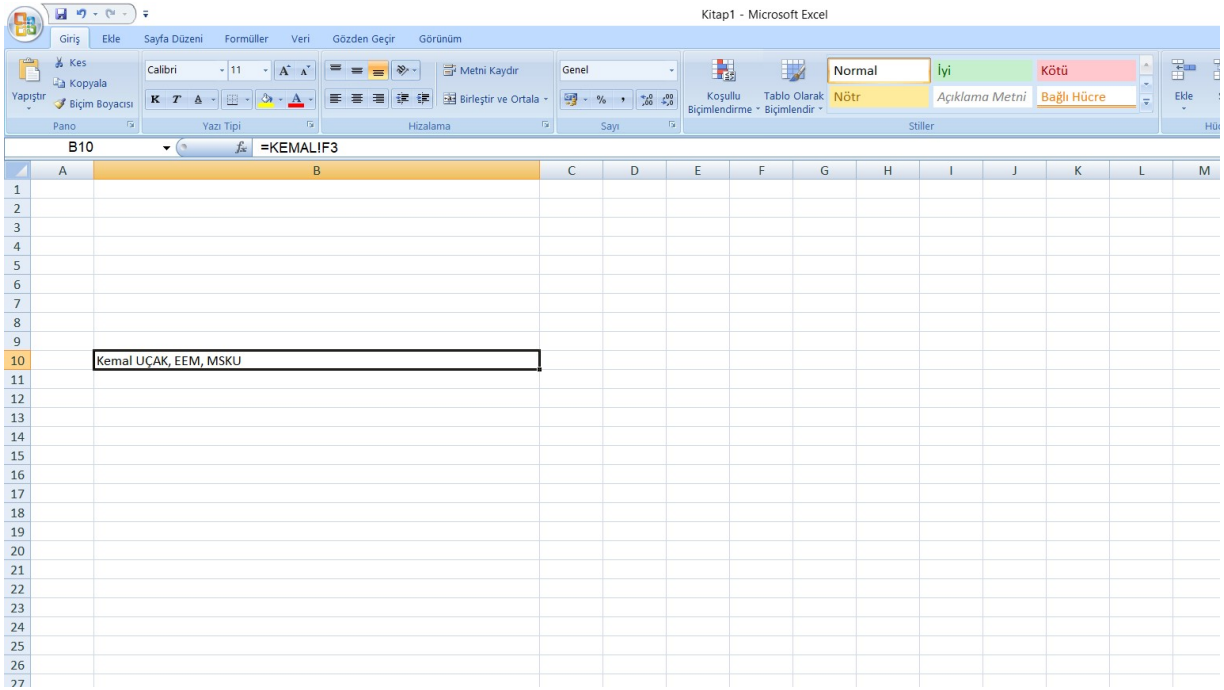
Şekil 4: Input Variables (Cell B2 and B3), Output Variable (E3)

3.3 Data Transfer among Worksheets

The data at Worksheet “KEMAL” Cell “F3” is assigned to the “MAIN PAGE” Worksheet Cell “B10”. In order to transfer any data among Worksheet, firstly, it is required to define the name of the worksheet and cell where data is transferred. For this purpose, the following command is deployed.

=WORKSHEETNAME!CELLNAME

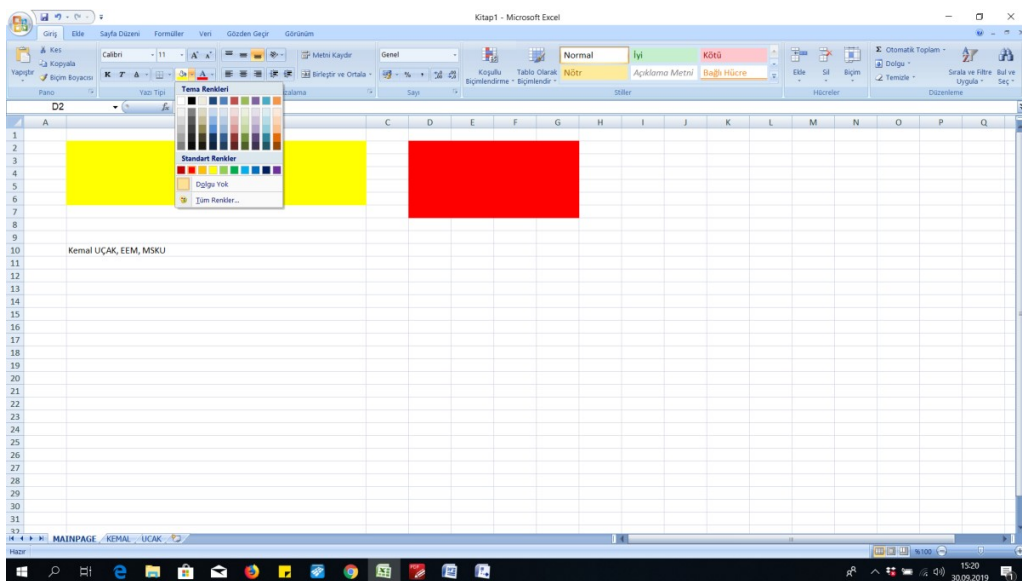


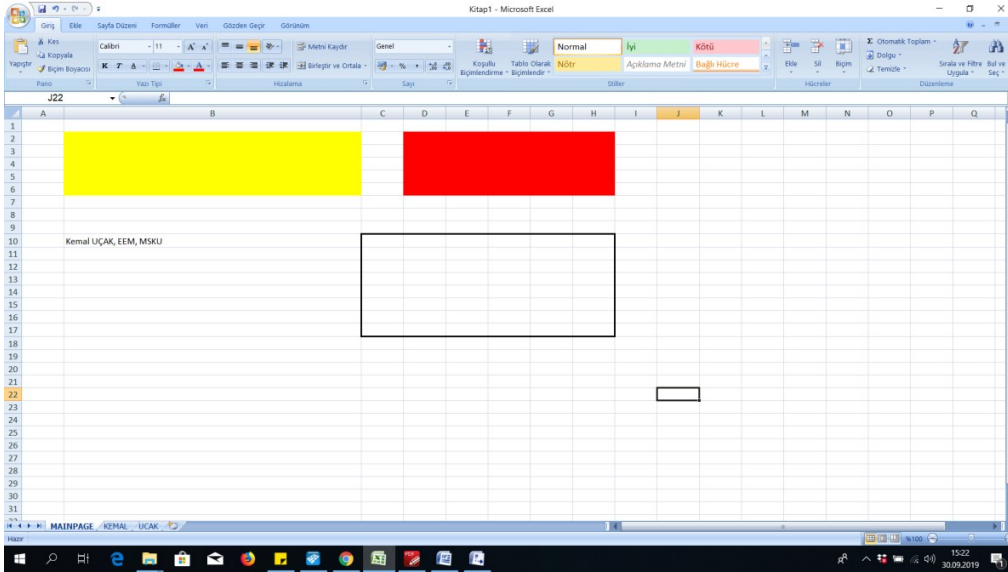
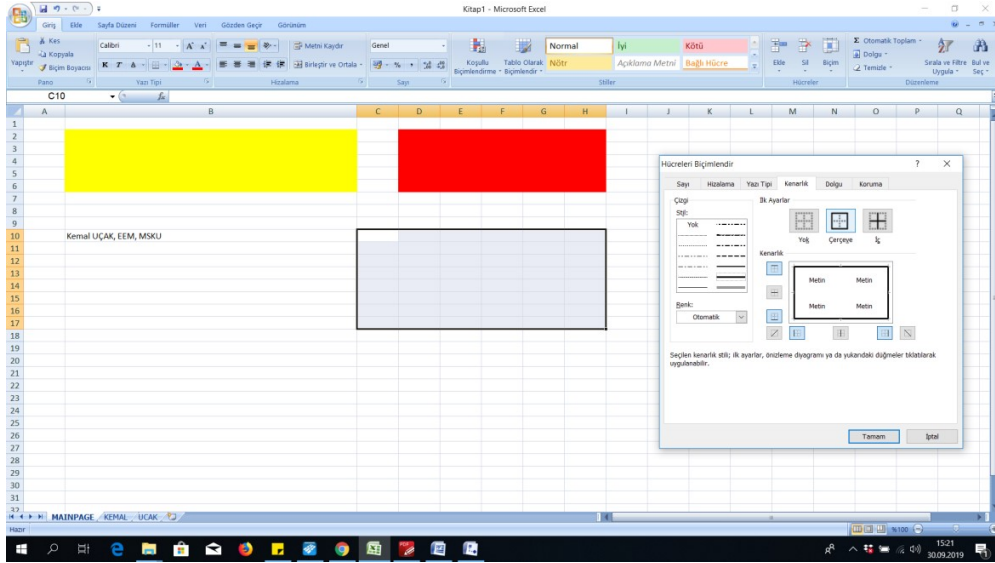


Şekil 5:Data Transfer among Worksheets

3.3 Cell Colors

The background of the cell colors can be changed as desired. It is possible to define specific area to work or constitute a table.





Şekil 6: Specific Area to work

3.4 AND, OR, IF –ELSE Statement

“AND” and “OR” logical statements can compare two situation. Therefore, in order to compare thing more than two, it is required to utilize more “AND” “OR” logical expressions.

Example:

=AND(C2>10, E3<5)

If the value in C2 is bigger than 10 AND the value in E3 is smaller than 5, than result is 1.

=OR(C2>10, E3<5)

If the value in C2 is bigger than 10 OR the value in E3 is smaller than 5, than result is 1.

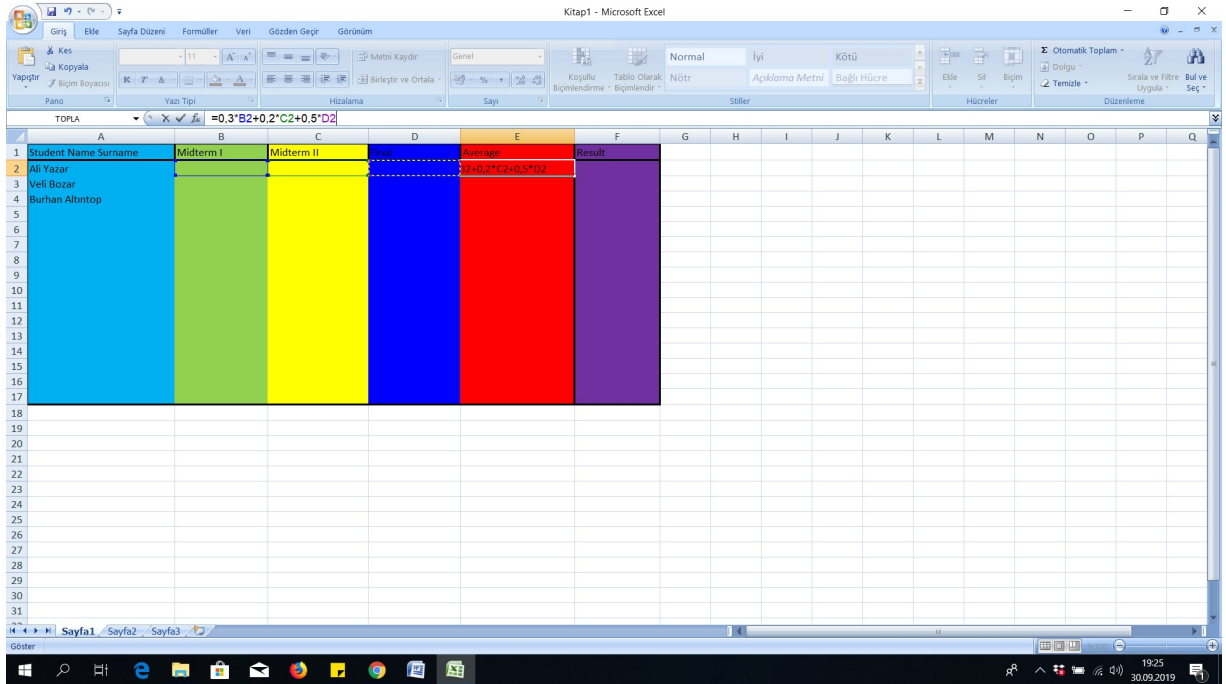
In IF-ELSE statement, it is possible to use single logical statement. However, this statement can be expanded using "AND", "OR" and "IF" trees.

IF(LOGICAL TESTING; LOGICAL TESTING TRUE; LOGICAL TESTING FALSE)

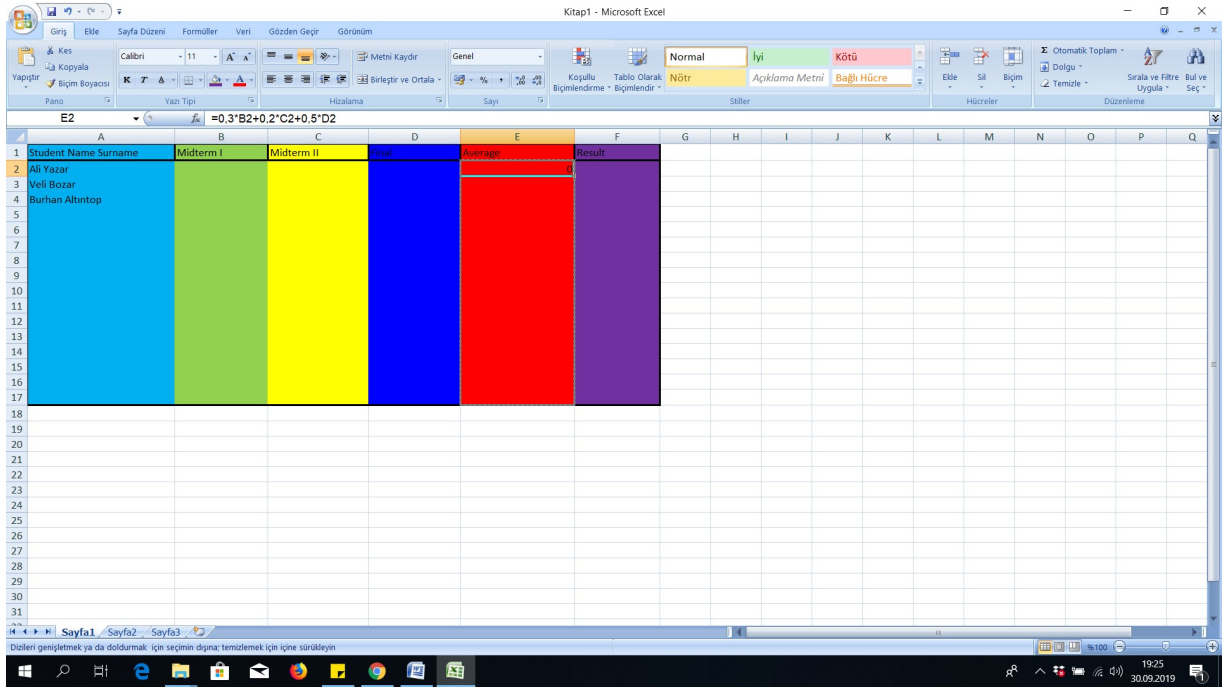
Example:

=IF(AND(C2<10;A2="KEMAL");"KEMAL UÇAK";"LAMEK KAÇU")

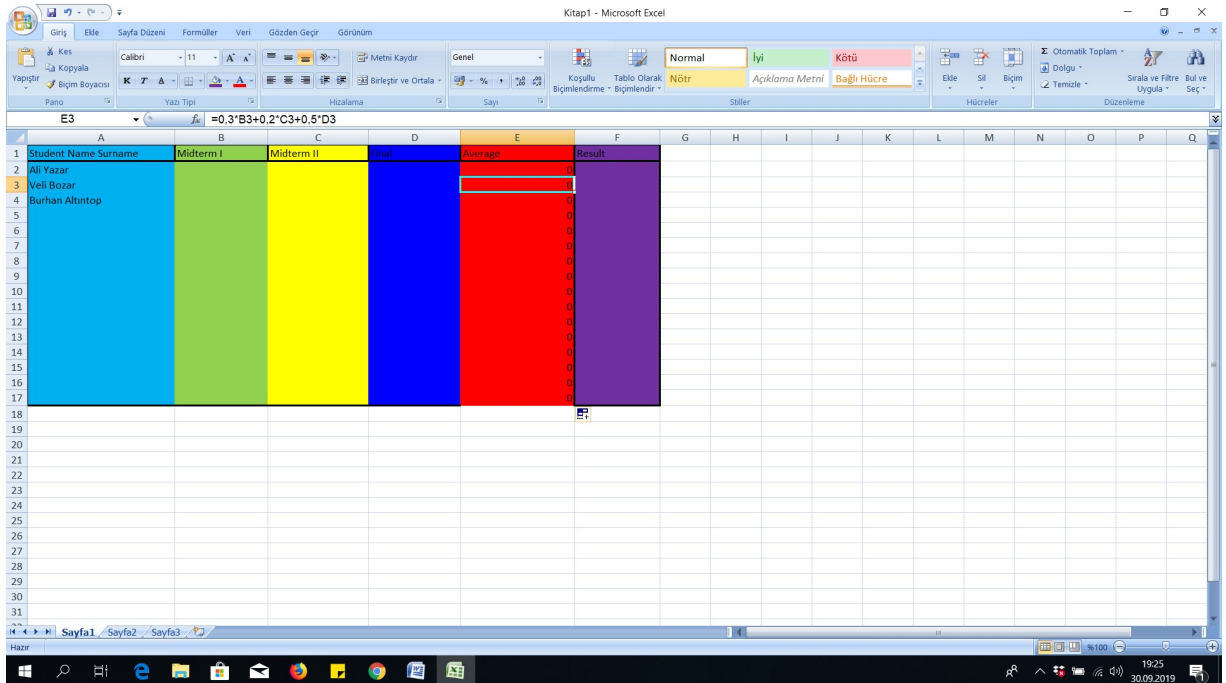
Example:



Şekil 7:Mathematical Formulation



Şekil 8: Spreading Formulation to whole column(Drag the formulation throughout the column)



Şekil 9:Automatic Formulation

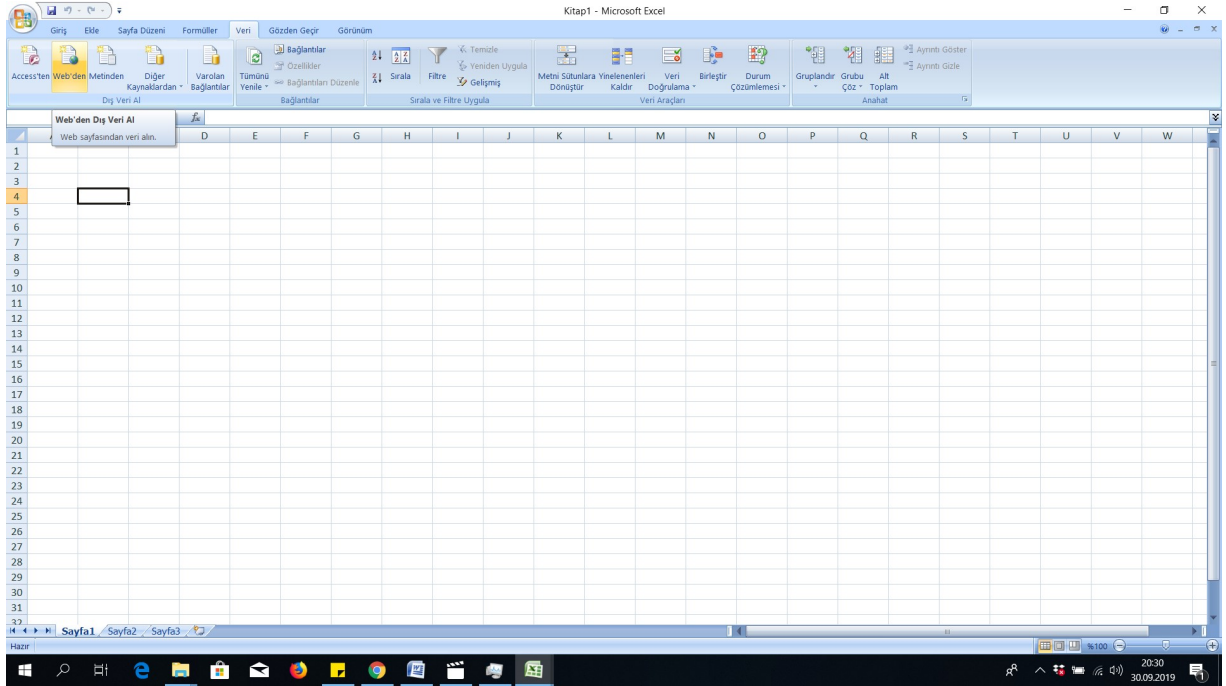
Please examine the following web site for details

<https://www.excel-easy.com/examples/if.html>

3.5 Pulling Data from Internet (Import Data from Web into Excel)

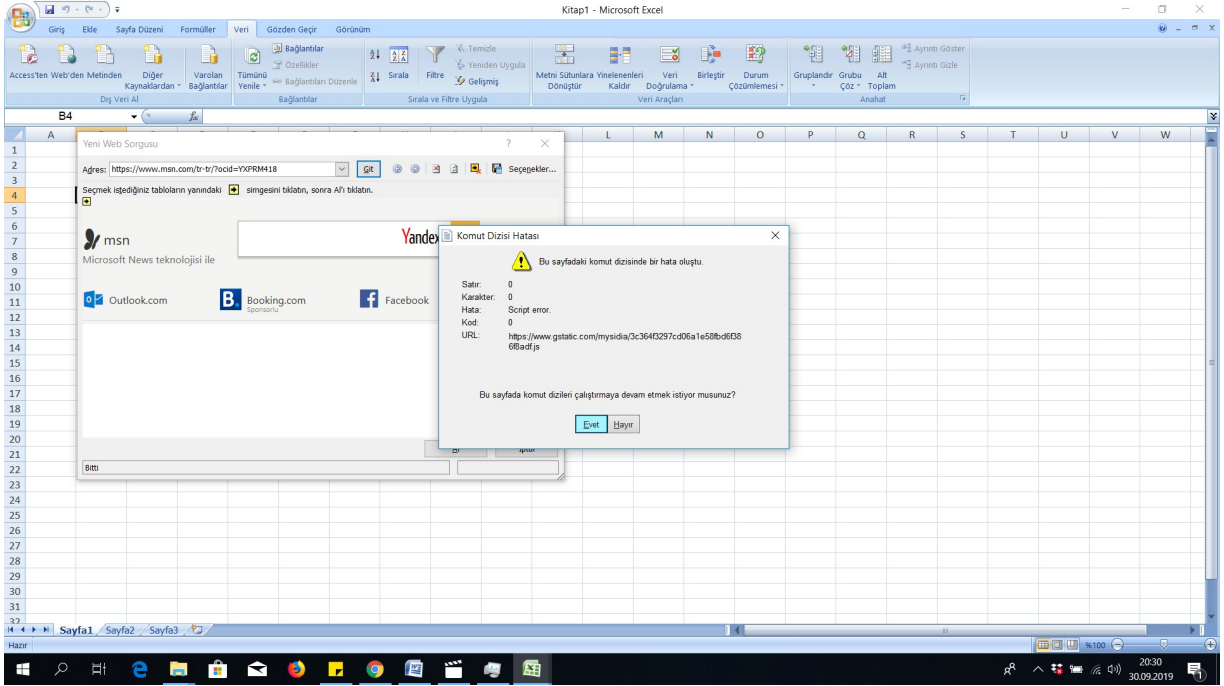
The data import from WEB site is given in 6 step as follows. Please carefully follow the given steps.

Step 1: Click to get data from web

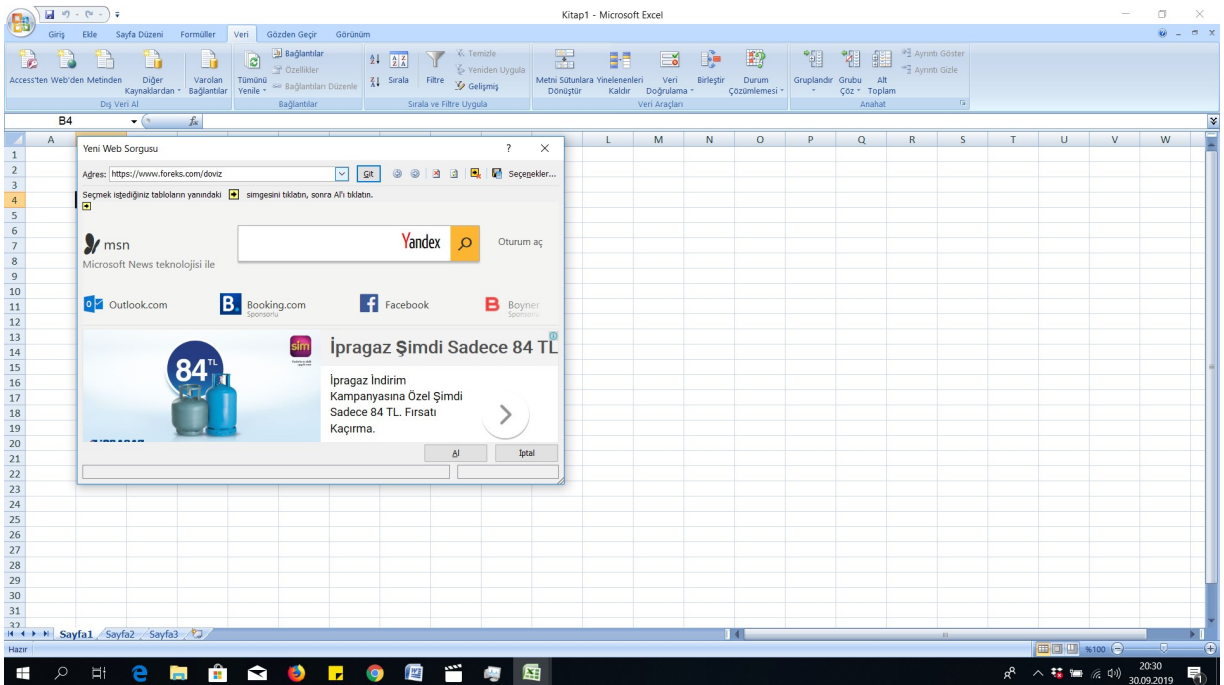


Şekil 13: Take data from web

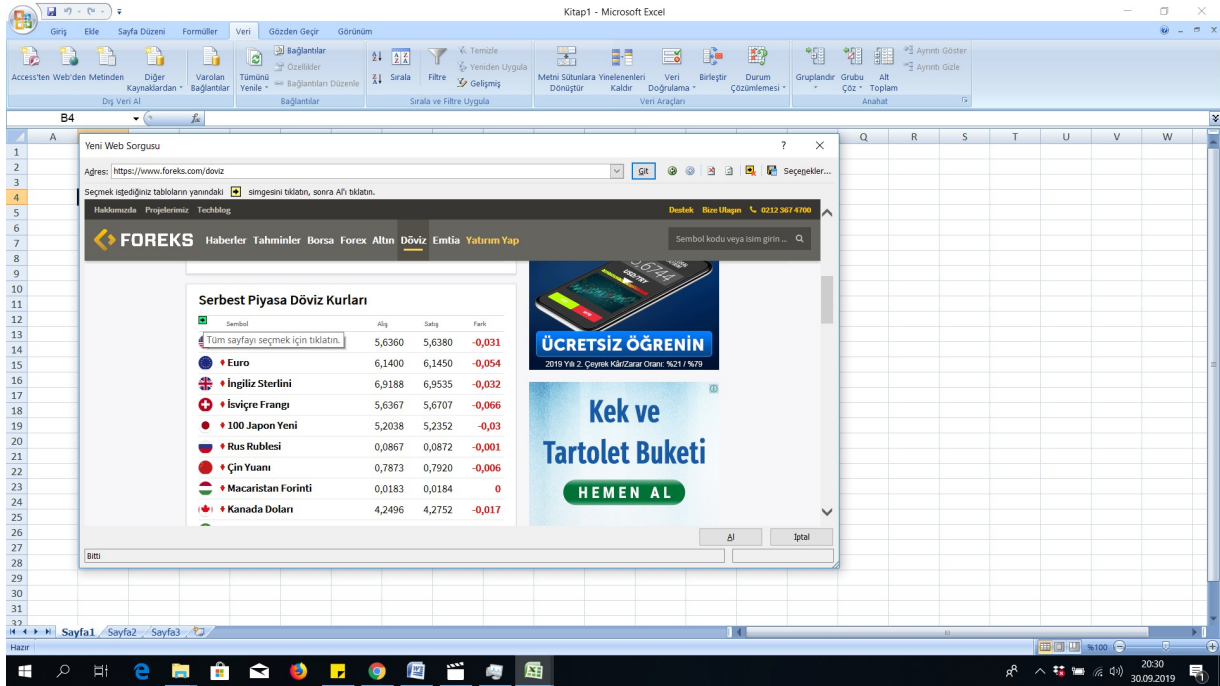
Step 2: Enter the web site that you want to pull data. There may be some warnings.



Şekil 14: Some Warnings

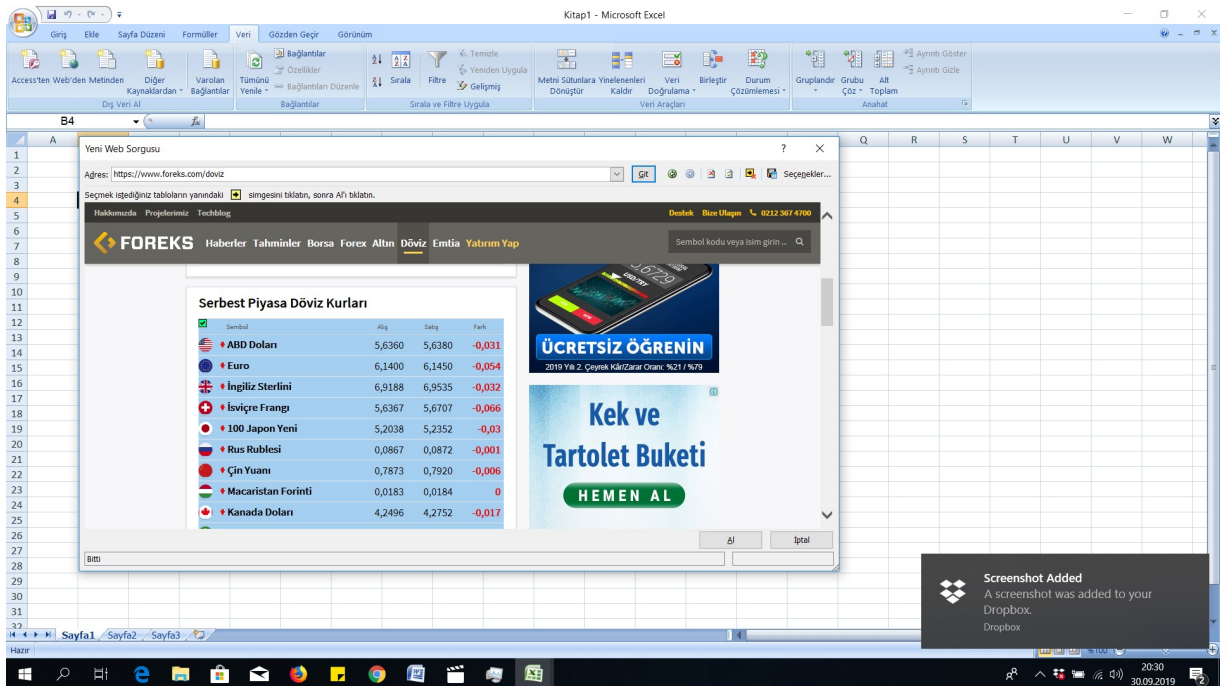


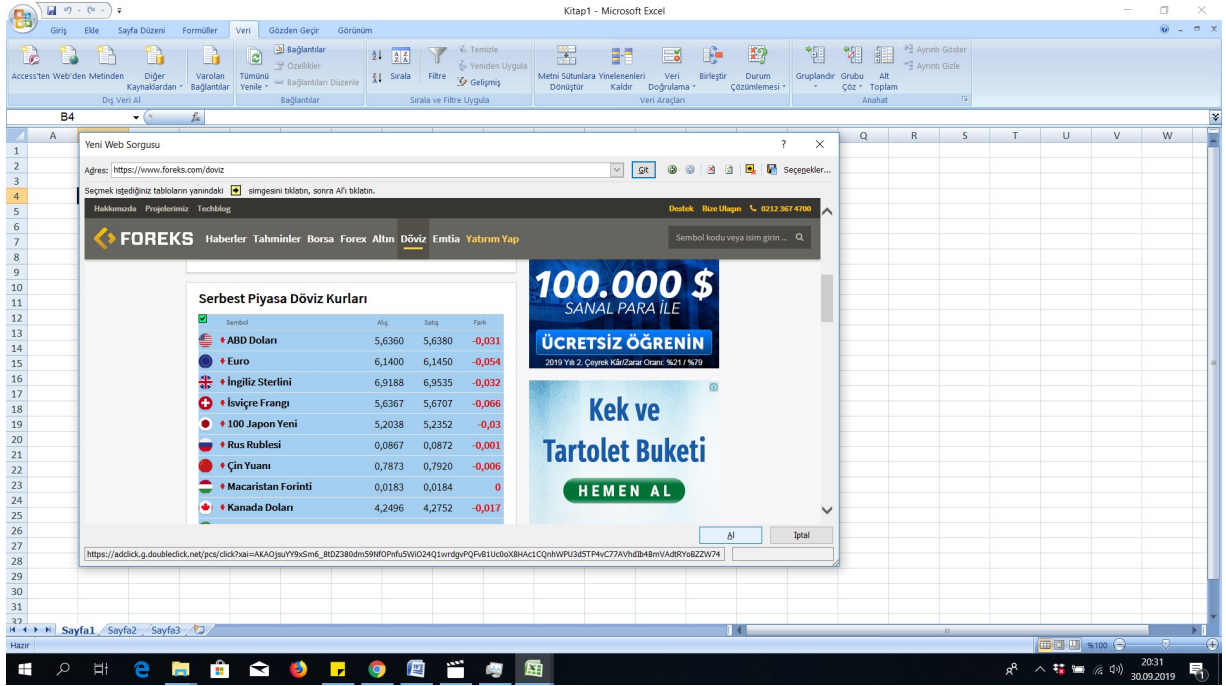
Şekil 15: Enter the WEB address that you want to pull data and then click go



Şekil 16: The WEB site opens in EXCEL and you can show YELLO arrow where you can pull data

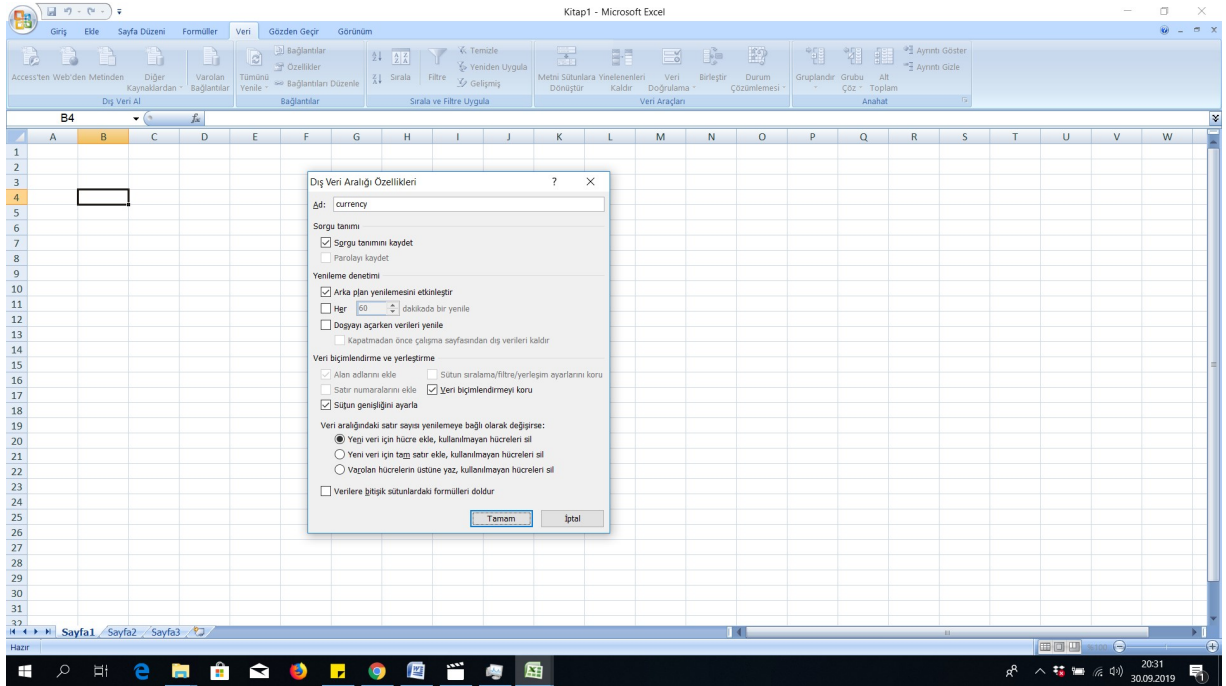
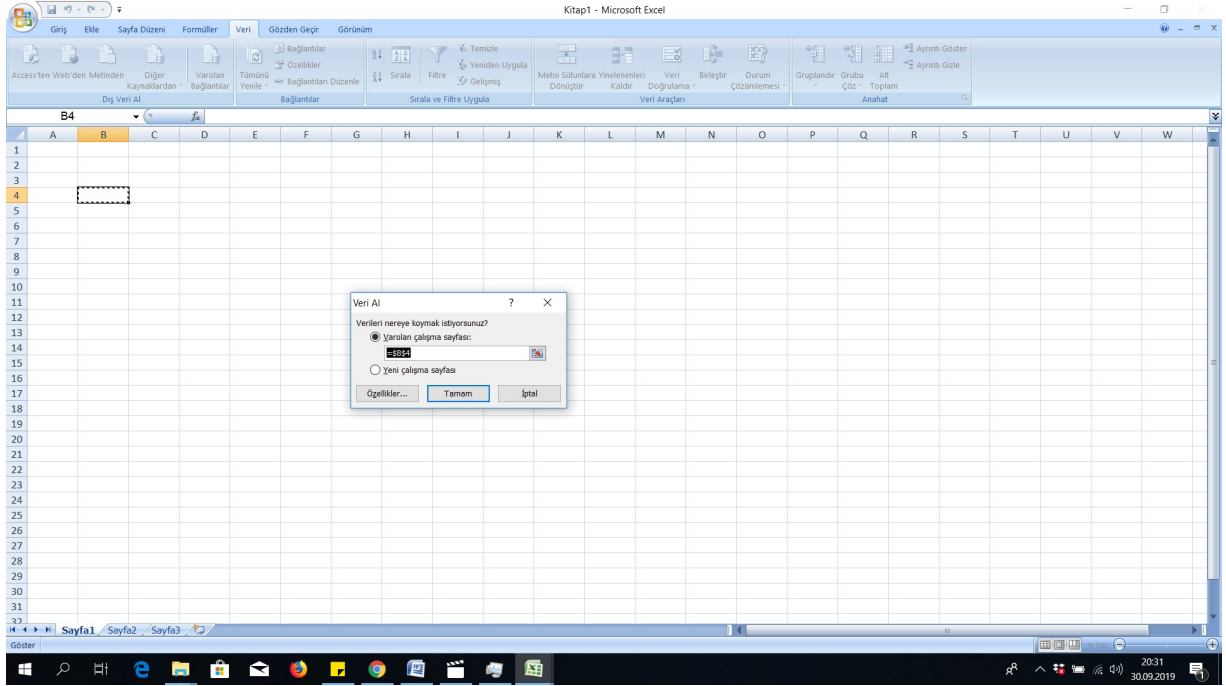
Step 3: There will be an arrow where you can pull data. Click arrow. The arrow will be green color so as to take data.



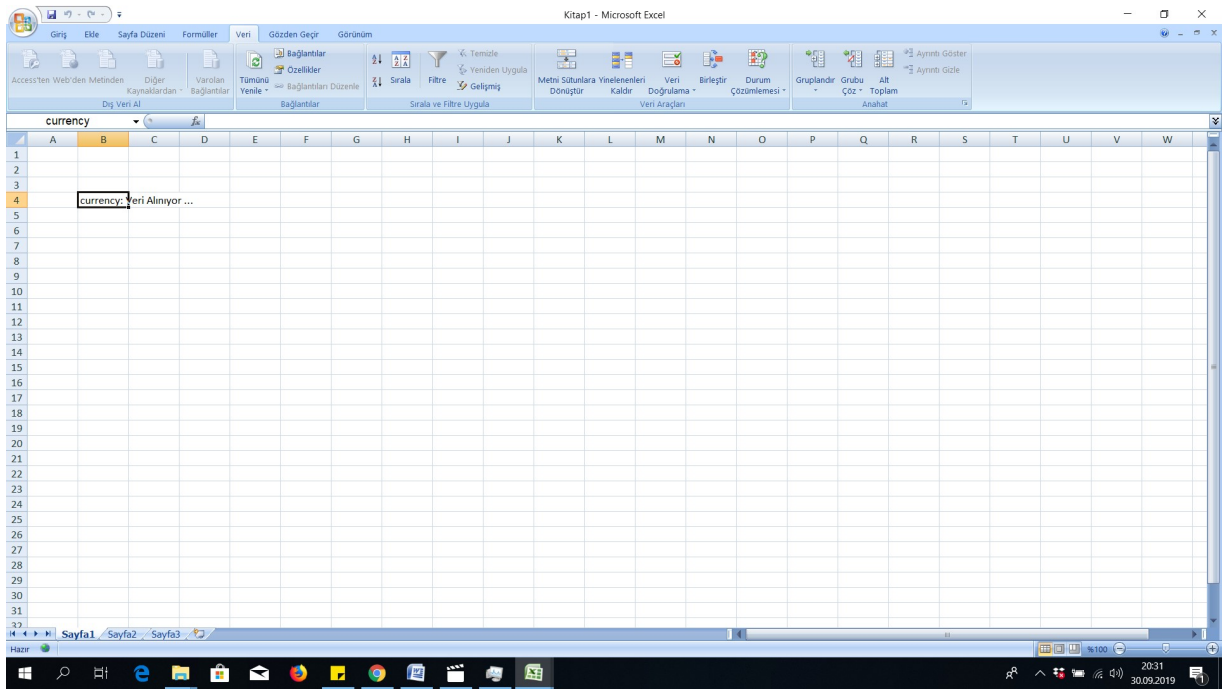
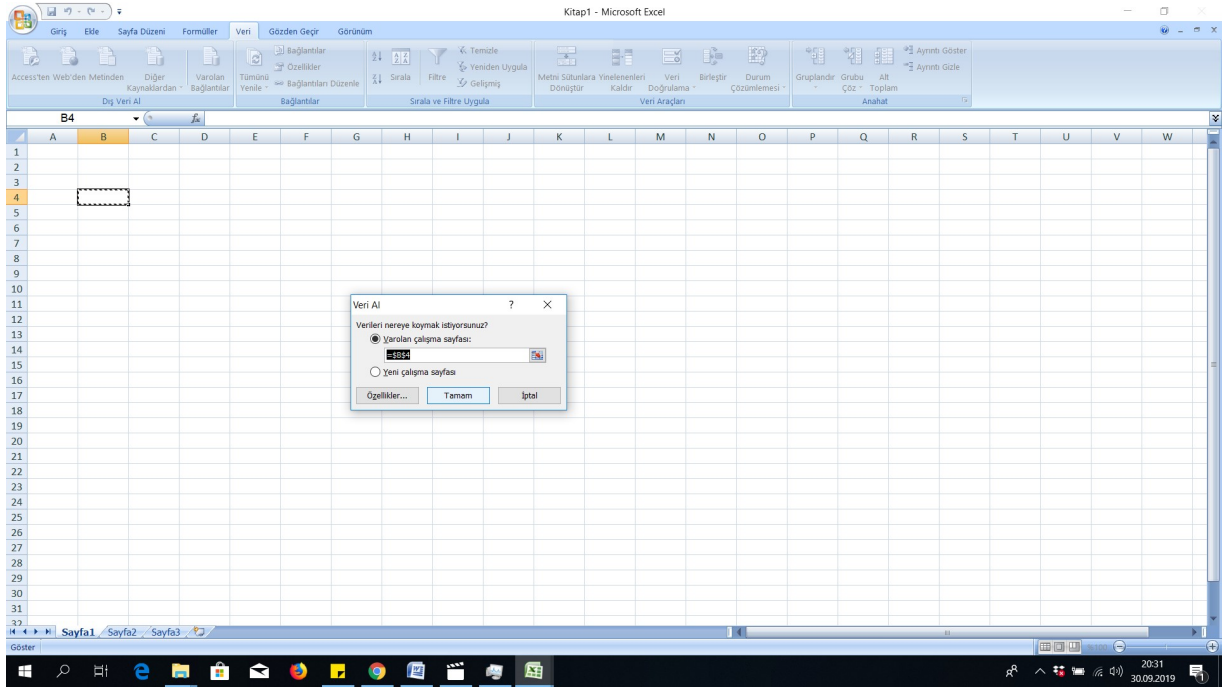


Şekil 17: Click the yellow arrow to obtain green OK symbol

Step 4: You can specify the features related to the data transfer.



Şekil 18: Change the data transfer information



Şekil 19: Data is transferred to excel cells

Step 5: All selected data can be transferred as follows. Thus, it is possible to create novel tables via transferred actual data.

Sembol	Alış	Satış	Fark	Fark %	Saat
ABD Doları	5,636	5,638	-0,031	-0,55%	17:28:05
Euro	6,14	6,145	-0,005	-0,87%	17:28:08
İngiliz Sterlini	6,9193	6,954	-0,032	-0,46%	20:31:41
İsviçre Frangı	5,6365	5,6704	-0,034	-0,6%	20:31:41
100 Japon Yeni	5,2033	5,2347	-0,031	-0,59%	20:31:41
Rus Rublesi	0,0867	0,0872	-0,0005	-0,57%	20:31:41
Çin Yuanı	0,7873	0,792	-0,0047	-0,6%	20:31:41
Macaristan Forintı	0,0183	0,0184	-0,0001	-0,54%	20:31:20
Kanada Doları	4,2496	4,2752	-0,0256	-0,6%	20:31:41
Brezilya Reali	1,3512	1,3593	-0,0081	-0,59%	20:31:41

Şekil 20: Transfer of All selected data

Step 6: The following simple investment program can be implemented.

Sembol	Alış	Satış	Fark	Fark %	Saat
ABD Doları	5,636	5,638	-0,031	-0,55%	17:28:05
Euro	6,14	6,145	-0,005	-0,87%	17:28:08
İngiliz Sterlini	6,9203	6,955	-0,032	-0,46%	20:26:42
İsviçre Frangı	5,6368	5,6708	-0,034	-0,6%	20:26:42
100 Japon Yeni	5,2037	5,235	-0,031	-0,59%	20:26:42
Rus Rublesi	0,0867	0,0872	-0,0005	-0,57%	20:26:42
Çin Yuanı	0,7873	0,792	-0,0047	-0,6%	20:26:41
Macaristan Forintı	0,0183	0,0184	-0,0001	-0,54%	20:26:40
Kanada Doları	4,25	4,2756	-0,0256	-0,6%	20:26:42
Brezilya Reali	1,3513	1,3594	-0,0081	-0,59%	20:26:42

Dolar	Euro	Sterlin
100	10	20
TUM TL Varlıgım		763,41

Şekil 21: Simple Investment Program

Please watch the following videos

Turkish: https://www.youtube.com/watch?v=oGWLM_x-RI4

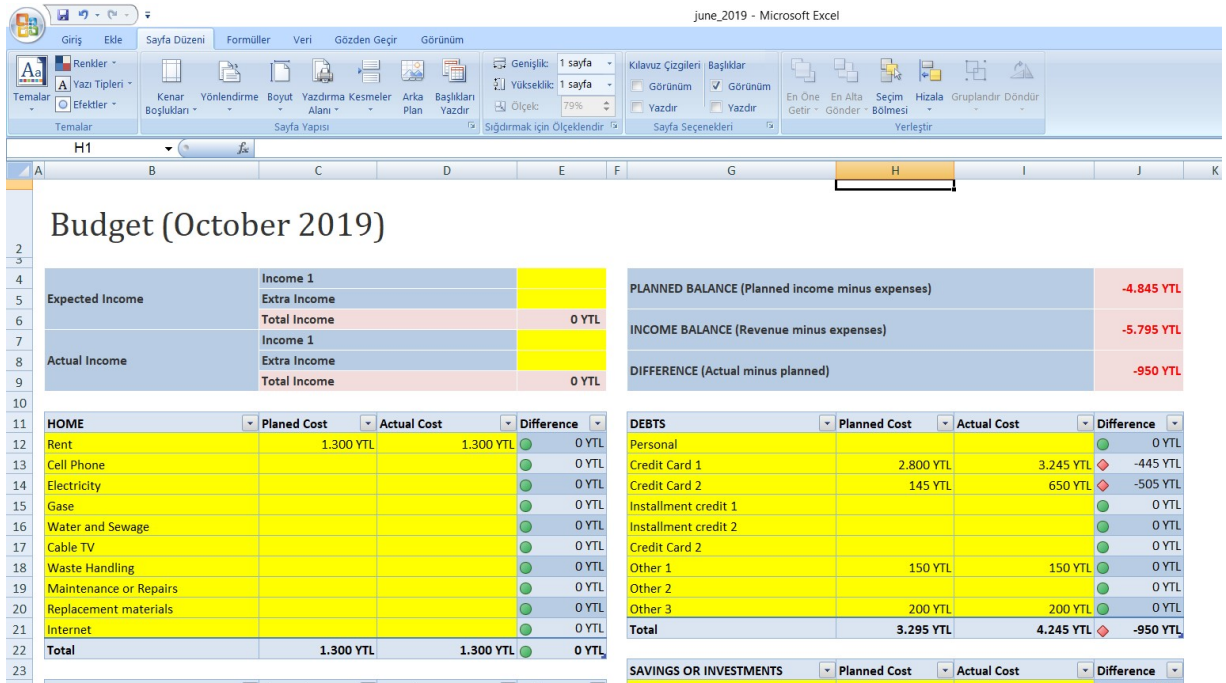
English: <https://www.youtube.com/watch?v=FZSR8DA01jQ>

<https://www.youtube.com/watch?v=4mwaiA4rL4o>

3.6 Determine Print Area (Printer Settings)

In order to scale the excel file according to the printer settings, it is required to determine a print area.

Lets us consider the following original Excel file.



HOME		Planned Cost	Actual Cost	Difference
Rent		1.300 YTL	1.300 YTL	0 YTL
Cell Phone				0 YTL
Electricity				0 YTL
Gas				0 YTL
Water and Sewage				0 YTL
Cable TV				0 YTL
Waste Handling				0 YTL
Maintenance or Repairs				0 YTL
Replacement materials				0 YTL
Internet				0 YTL
Total		1.300 YTL	1.300 YTL	0 YTL

DEBTS		Planned Cost	Actual Cost	Difference
Personal				0 YTL
Credit Card 1		2.800 YTL	3.245 YTL	-445 YTL
Credit Card 2		145 YTL	650 YTL	-505 YTL
Installment credit 1				0 YTL
Installment credit 2				0 YTL
Credit Card 2				0 YTL
Other 1		150 YTL	150 YTL	0 YTL
Other 2				0 YTL
Other 3		200 YTL	200 YTL	0 YTL
Total		3.295 YTL	4.245 YTL	-950 YTL

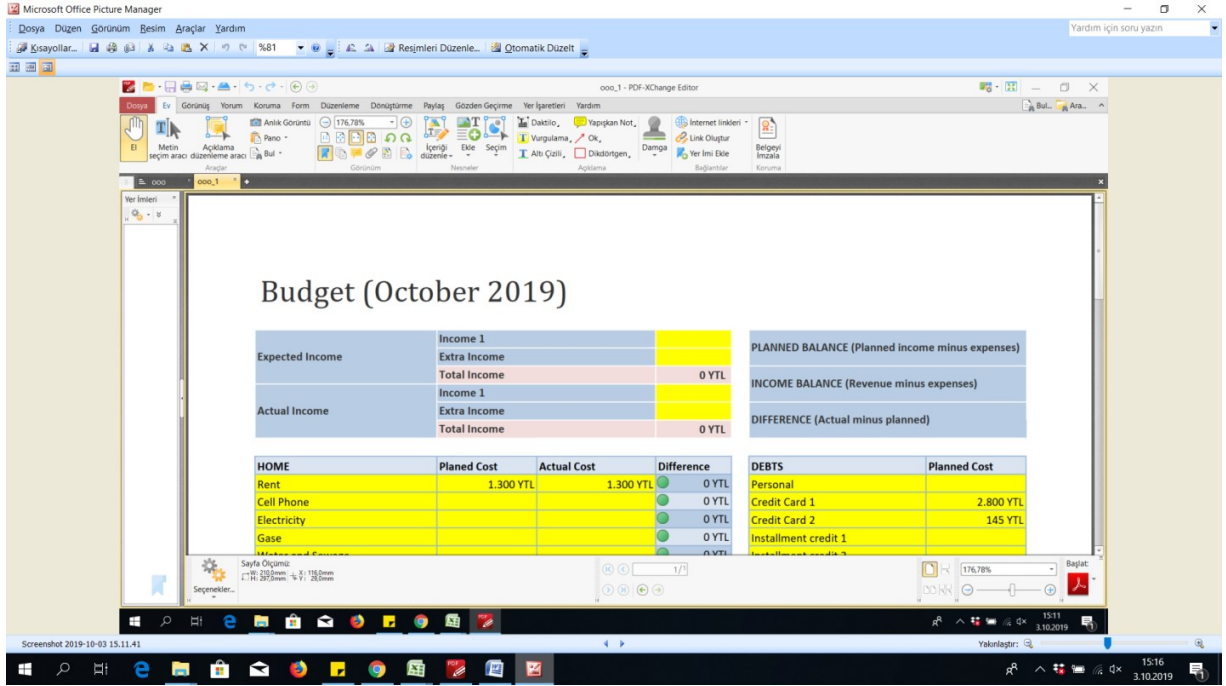
SAVINGS OR INVESTMENTS		Planned Cost	Actual Cost	Difference

Income		Planned	Actual	Difference
Expected Income	Income 1			
	Extra Income			
	Total Income			0 YTL
Actual Income	Income 1			
	Extra Income			
	Total Income			0 YTL

Summary		Planned	Actual	Difference
PLANNED BALANCE (Planned income minus expenses)				-4.845 YTL
INCOME BALANCE (Revenue minus expenses)				-5.795 YTL
DIFFERENCE (Actual minus planned)				-950 YTL

Şekil 22:Original Excel File without Print Area

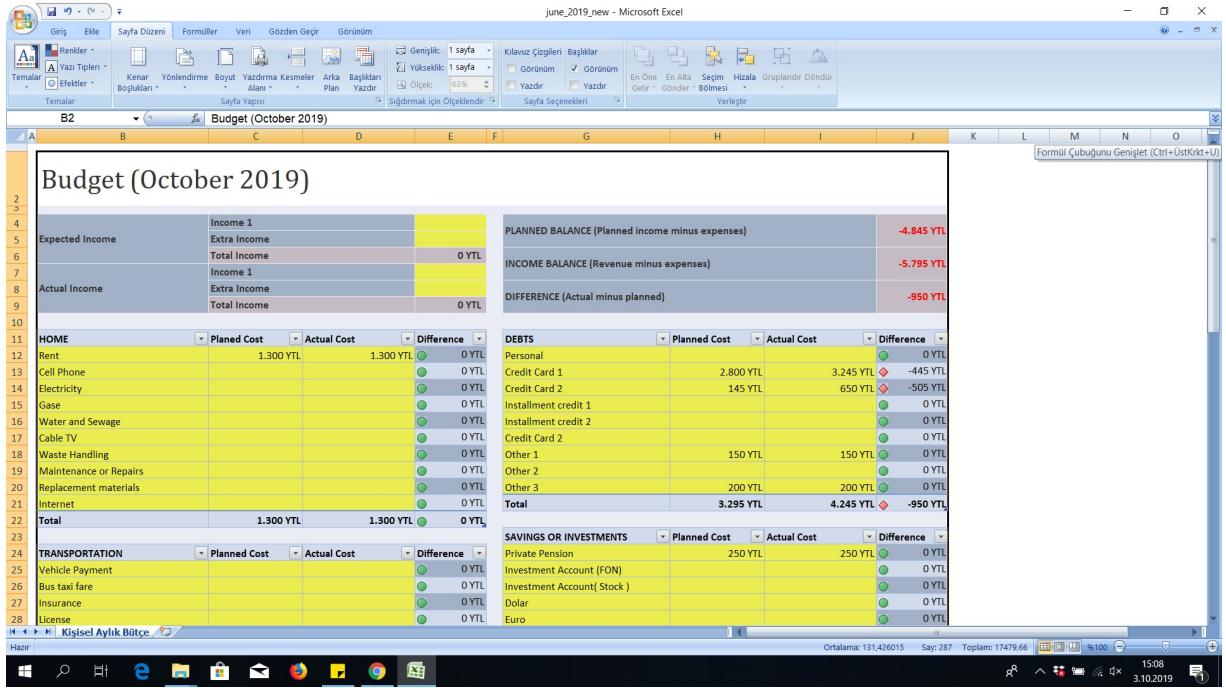
If the Excel File is printed, the following output file is acquired.



Şekil 23: Loss of Information at right hand side of the document

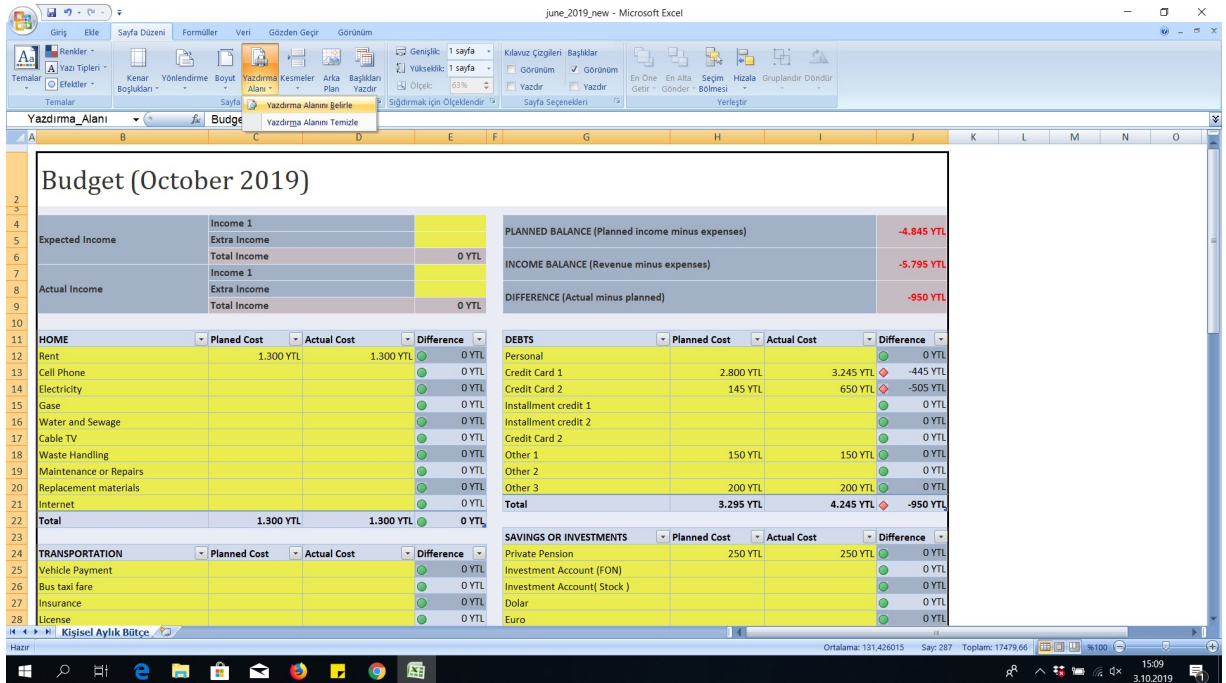
In order to scale the Excel document to printer settings, it is necessary to determine a print region as follows:

Chose the region that you want to add into print region.



Şekil 24: Selection of the Print Region in Excel File

Click Print Region and determine print region. Thus, the print region is determined.



Şekil 25: Determination of Print Region

Therefore, the print output of this new file is attained as follows:

Budget (October 2019)

Expected Income	Income 1			PLANNED BALANCE (Planned income minus expenses)	-4.845 YTL
Extra Income					
Total Income		0 YTL			
Actual Income	Income 1			INCOME BALANCE (Revenue minus expenses)	-5.795 YTL
Extra Income					
Total Income		0 YTL			
				DIFFERENCE (Actual minus planned)	-950 YTL

HOME	Planned Cost	Actual Cost	Difference	DEBTS	Planned Cost	Actual Cost	Difference
Rent	1.300 YTL	1.300 YTL	0 YTL	Personal			0 YTL
Cell Phone			0 YTL	Credit Card 1	2.800 YTL	3.245 YTL	-445 YTL
Electricity			0 YTL	Credit Card 2	145 YTL	650 YTL	-505 YTL
Gas			0 YTL	Installment credit 1			0 YTL
Water and Sewage			0 YTL	Installment credit 2			0 YTL
Cable TV			0 YTL	Credit Card 2			0 YTL
Waste Handling			0 YTL	Other 1	150 YTL	150 YTL	0 YTL
Maintenance or Repairs			0 YTL	Other 2			0 YTL
Replacement materials			0 YTL	Other 3	200 YTL	200 YTL	0 YTL
Internet			0 YTL	Total	3.295 YTL	4.245 YTL	-950 YTL
Total	1.300 YTL	1.300 YTL	0 YTL				

TRANSPORTATION	Planned Cost	Actual Cost	Difference	SAVINGS OR INVESTMENTS	Planned Cost	Actual Cost	Difference
				Private Pension	250 YTL	250 YTL	0 YTL

Şekil 26: Output File with Print Region

Please watch the following videos:

https://www.youtube.com/watch?v=1IqNHres_Yo

https://www.youtube.com/watch?v=8Jnt6_ef2vE

4 Application & Project

Mini Project 1: Implement an excel investment program taking data from web. Deadline: 10.10.2019

June_2019 - Microsoft Excel

	Planned Cost	Actual Cost	Difference
FOOD			
Market 1			0 YTL
Market 2			0 YTL
MSKU Refectory			0 YTL
KÖTEKLİ Restaurants			0 YTL
Home			0 YTL
Total	0 YTL	0 YTL	0 YTL
PERSONAL CARE			
Health			0 YTL
Hair / nail			0 YTL
Clothing			0 YTL
Dry cleaner			0 YTL
Health club			0 YTL
Organization fees			0 YTL
Other			0 YTL
Total	0 YTL	0 YTL	0 YTL
ENTERTAINMENT			
Video/DVD			0 YTL
CD's			0 YTL
Films			0 YTL
Concerts			0 YTL
Sports events			0 YTL
LEGAL			
Lawyer			0 YTL
Alimony			0 YTL
Foreclosures and court payments			0 YTL
Other			0 YTL
Total	0 YTL	0 YTL	0 YTL
TOTAL PLANNED COST			4.845 YTL
TOTAL REALIZED COST			5.795 YTL
TOTAL DIFFERENCE			-950 YTL

Şekil 27: Budget EXCEL Program

5 Conclusion

In this lecture, it has been aimed to brush up fundamental information about EXCEL. It is aimed to teach the following

- AND, OR, IF-ELSE Statements
- Pulling Data From web sites
- Enhance Excel Programming Skills
- Data transfer from Different worksheets
- Basic Mathematical Formulations
- Basic Logical Expressions