



**Monmouth**  
COLLEGE

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## **BUSI 201: Business Data Analysis**

### **Quiz #1: Excel Basics**

#### **INSTRUCTIONS:**

- BUSI201-Q01-Workbook.xlsx is the companion workbook for this quiz.
- The workbook consists of four worksheets: Expenses, Employee, Sales, and Inventory.
- The quiz booklet contains 4 problems, each corresponding to one of the worksheets.
- Unless explicitly stated, manually typing in the answers without using functions will result in all points being deducted from the specific question.
- Once you are finished, save/rename the workbook to [YOUR\\_LOGIN\\_ID](#).xlsx, and submit your results via email to [BPARK@monmouthcollege.edu](mailto:BPARK@monmouthcollege.edu).

**Problem 1. Expenses: 35 Points**

The first problem describes the tasks assigned for the first worksheet Expenses. The worksheet contains a synthetic expense sheet for a household, and the table highlighted by the blue box contains information about the cashback rewards each payment method provides. Card A returns 6% as rewards when the spend category is Groceries, and 1% for all other categories. Card B returns 2% back as rewards for all transactions regardless of the category.

August 2023 Rewards		Rate of Return		
Actual	Optimal		Card A	Card B
		Groceries	6.0%	2.0%
		All Others	1.0%	2.0%

  

Date	Vendor	Category	Amount	Payment	Actual RoR	Actual Rewards	Optimal RoR	Optimal Rewards
8/1/2023	Supermart	Groceries	\$ 42.08	Card A				
8/2/2023	The Bistro	Dining	\$ 112.67	Card B				
8/3/2023	Airlines Inc.	Travel	\$ 52.88	Card A				
8/5/2023	Health Plus	Drug Stores	\$ 81.08	Card A				
8/7/2023	PetroCo	Gasoline	\$ 147.65	Card B				
8/10/2023	Movieplex	Entertainment	\$ 133.77	Card A				
8/12/2023	Casa Italia	Dining	\$ 136.11	Card A				
8/14/2023	MegaMart	Groceries	\$ 141.66	Card B				
8/15/2023	Hotel Stay Inc.	Travel	\$ 155.23	Card A				
8/18/2023	FuelUp	Gasoline	\$ 72.49	Card A				
8/20/2023	The Grill	Dining	\$ 48.77	Card A				

**Task #1: 15 Points**

Your first task is to find the entries for the Actual RoR column highlighted by the red box. It should contain the rate of return (%) on spend as dictated by the table in the blue box. Then, fill in the Actual Rewards column marked by the green box with the amount of rewards the consumer actually received for each transaction.

**Task #2: 15 Points**

The consumer is not optimizing their card choices, for instance on row 11, they are using Card A to get 1% back, while they could be using Card B to get 2% back. In the Optimal RoR marked by the orange box, find what the consumer *would have* achieved had they used the best payment method for each transaction. For instance, in row 11, the optimal rate of return should have been 2%. Then, fill in the Optimal Rewards column marked by the pink box with the amount of rewards the consumer would have received for each transaction had they optimized their card use.

**Task #3: 5 Points**

Finally, you must fill out the table highlighted by the purple box with the total amount of rewards this consumer accumulated over the month of August in cell C5, and what the consumer would have been able to accumulate had they optimized their card use in cell C6.

**Problem 2. Employee: 5 Points**

The second worksheet, corresponding to the second problem, contains information of a list of employees in a fictitious firm. The entries include the employees' full names, their department, corporate email address which takes the form of LOGIN\_ID@firm.com, their office location and number (West or East Tower), and office phone number.

Employee Name	Department	Corporate Email	Office	Office Phone	First Name	Last Name	Login ID	Office #	Extension
John Smith	IT	john.smith@firm.com	East 108	(312) 729-7897					
Sarah Johnson	Sales	sarah.j@firm.com	West 104	(312) 729-5236					
Michael Davis	HR	michael.davis@firm.com	East 104	(312) 729-8789					
Emily Wilson	Operations	emily.wilson@firm.com	East 105	(312) 729-2461					
David Lee	Finance	david.lee@firm.com	East 105	(312) 729-6523					
Laura Garcia	Marketing	laura.garcia@firm.com	East 106	(312) 729-1598					
Robert Patel	Marketing	robert.p@firm.com	East 103	(312) 729-9347					
Jennifer Brown	Finance	jennifer.b@firm.com	West 109	(312) 729-6729					
Thomas Clark	Sales	thomas.c@firm.com	West 100	(312) 729-3145					
Melissa Turner	Sales	melissa.t@firm.com	East 101	(312) 729-8957					
Daniel Miller	Operations	daniel.m@firm.com	West 104	(312) 729-4372					
Sophia Wilson	Finance	sophia.w@firm.com	East 101	(312) 729-7854					
Kevin Adams	IT	kevin.a@firm.com	West 100	(312) 729-6910					
Rachel White	IT	rachel.w@firm.com	West 107	(312) 729-1728					
Richard Harris	Operations	richard.h@firm.com	West 109	(312) 729-4692					
Amanda Hall	Marketing	amanda.h@firm.com	West 209	(312) 729-8036					
Brian Turner	Operations	brian.t@firm.com	West 206	(312) 729-6158					
Lisa Jackson	Sales	lisa.j@firm.com	West 201	(312) 729-4091					
Jessica Martinez	Marketing	jessica.m@firm.com	West 203	(312) 729-7603					
Samuel King	Finance	samuel.k@firm.com	East 207	(312) 729-9987					
Maria Rodriguez	HR	maria.r@firm.com	East 213	(312) 729-0324					
Eric Scott	IT	eric.s@firm.com	East 218	(312) 729-2764					

**Task #1: 5 Points**

The single task in this problem is to fill in the entries highlighted by the red box with the employees' first name, last name, login ID, office number (ignoring the East / West tower indicators), and their phone extension (last 4 digits of office phone number).

- Make use of the flash fill function we covered in class.
- No points deducted for manually typing in the correct answers for Problem 2.

### Problem 3. Expenses: 35 Points

The third worksheet mimics sales data for a department store. The main table gives us information about the date of the sale, which employee made the sale, the product name and quantity sold, the price of each unit, and the value of the transaction.

Date	Employee	Product	Quantity	Unit Price	Total Sales
1/1/2023	Employee D	Shirt	5	\$ 26.44	\$ 132.18
1/2/2023	Employee F	Shoes	34	\$ 1.14	\$ 38.90
1/3/2023	Employee A	Jeans	39	\$ 87.73	\$ 3,421.51
1/4/2023	Employee B	Sweater	53	\$ 75.60	\$ 4,007.01
1/5/2023	Employee C	Hat	61	\$ 55.18	\$ 3,366.10
1/6/2023	Employee D	Dress	14	\$ 1.62	\$ 22.71
1/7/2023	Employee B	Jacket	25	\$ 11.27	\$ 281.83
1/8/2023	Employee F	Socks	38	\$ 16.57	\$ 629.66
1/9/2023	Employee A	Scarf	24	\$ 84.23	\$ 2,021.52
1/10/2023	Employee C	Sunglasses	89	\$ 20.99	\$ 1,868.38
1/11/2023	Employee F	T-shirt	66	\$ 92.39	\$ 6,097.87
1/12/2023	Employee A	Skirt	85	\$ 35.26	\$ 2,997.10
1/13/2023	Employee D	Backpack	15	\$ 4.74	\$ 71.09
1/14/2023	Employee B	Umbrella	19	\$ 48.14	\$ 914.60
1/15/2023	Employee E	Gloves	7	\$ 23.43	\$ 163.98
1/16/2023	Employee C	Boots	20	\$ 93.65	\$ 1,872.90
1/17/2023	Employee F	Jacket	30	\$ 34.25	\$ 1,027.41
1/18/2023	Employee D	Sweater	58	\$ 21.28	\$ 1,234.07
1/19/2023	Employee C	Shoes	59	\$ 26.76	\$ 1,578.72
1/20/2023	Employee A	Hat	26	\$ 68.73	\$ 1,786.90
1/21/2023	Employee B	Dress	83	\$ 70.24	\$ 5,830.09
1/22/2023	Employee F	Shirt	88	\$ 94.91	\$ 8,352.08
1/23/2023	Employee E	Jeans	6	\$ 40.81	\$ 244.84
1/24/2023	Employee A	T-shirt	49	\$ 93.76	\$ 4,594.34
1/25/2023	Employee D	Sunglasses	7	\$ 43.69	\$ 305.80
1/26/2023	Employee C	Skirt	56	\$ 89.56	\$ 5,015.08
1/27/2023	Employee B	Backpack	66	\$ 85.17	\$ 5,620.89
1/28/2023	Employee F	Gloves	16	\$ 84.35	\$ 1,349.60
1/29/2023	Employee E	Socks	59	\$ 13.94	\$ 816.74
1/30/2023	Employee A	Umbrella	74	\$ 39.18	\$ 2,899.10
2/1/2023	Employee C	Boots	65	\$ 40.36	\$ 2,623.33
2/2/2023	Employee F	Jacket	38	\$ 45.25	\$ 1,719.42
2/3/2023	Employee B	Dress	64	\$ 10.23	\$ 654.53
2/4/2023	Employee A	Sweater	11	\$ 88.36	\$ 972.00
2/5/2023	Employee D	Shoes	30	\$ 88.96	\$ 2,668.83
2/6/2023	Employee E	Hat	32	\$ 47.93	\$ 1,533.86
2/7/2023	Employee C	Shirt	11	\$ 57.79	\$ 1,907.04

  

Product	# of Sales	Total Quantity	Sales (\$)
Backpack			
Boots			
Dress			
Gloves			
Hat			
Jacket			
Jeans			
Scarf			
Shirt			
Shoes			
Skirt			
Socks			
Sunglasses			
Sweater			
T-shirt			
Umbrella			

  

Employee	# of Sales	Total Quantity	Total Sales
Employee A			
Employee B			
Employee C			
Employee D			
Employee E			
Employee F			

  

Top Rank	Total Sales	Bottom Rank	Total Sales
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	

#### Task #1: 15 points

Your first task is to find the correct values for the table in the **red box**:

- # of Sales:**  
Total number of times a product was sold. NOT the total quantity of product sold.
- Total Quantity:**  
The total quantity of product sold for each product type.
- Sales (\$):**  
The total dollar value of the sales for each product type.

#### Task #2: 15 points

The next task is to complete the **blue box**, analogous to the first task but calculating the numbers by employee instead of by products. Calculate and report the total number of sales, the total quantity of goods sold, and total dollar value of their sales.

#### Task #3: 5 points

Finally, you must fill out the table highlighted by the **orange box** by finding the 10 largest and smallest transactions made. Note that we are not trying to find the employee who made the most sales, or the product with the highest/lowest transaction value, but the highest and lowest transaction value itself.

## Quiz #1

## BUSI 201 Business Data Analysis

### Problem 4. Inventory: 25 Points

The final problem of this quiz will consist of two tasks on the worksheet **Inventory**. This worksheet contains information on inventory from a supermarket. Each item is given a unique item code, and the quantity of items in inventory, and the price of each unit.

Item Code	Item Make	Item Name	Category	Inventory	Price	Total Value
1001	Kellogg's	Corn Flakes	Breakfast Cereals	281	\$ 3.99	
1002	Coca-Cola	Coca-Cola Classic	Beverages	446	\$ 1.99	
1003	General Mills	Cheerios	Breakfast Cereals	258	\$ 4.49	
1004	Heinz	Ketchup	Condiments	252	\$ 2.49	
1005	Nestlé	Bottled Water	Beverages	169	\$ 0.99	
1006	Campbell's	Tomato Soup	Canned Foods	338	\$ 1.79	
1007	Colgate	Toothpaste	Personal Care	190	\$ 2.29	
1008	Johnson & Johnson	Baby Shampoo	Baby Care	294	\$ 3.99	
1009	Quaker Oats	Oatmeal	Breakfast Cereals	362	\$ 3.29	
1010	Pantene	Shampoo	Personal Care	163	\$ 4.99	
1011	Lipton	Green Tea Bags	Beverages	165	\$ 2.99	
1012	Dove	Bar Soap	Personal Care	358	\$ 1.49	
1013	Lay's	Potato Chips	Snacks	203	\$ 3.49	
1014	Gatorade	Sports Drink	Beverages	336	\$ 1.79	
1015	Johnsonville	Bratwurst Sausages	Meat & Poultry	390	\$ 4.99	
1016	Pampers	Diapers	Baby Care	290	\$ 8.99	
1017	Tide	Laundry Detergent	Household	202	\$ 5.99	
1018	Breyers	Ice Cream	Frozen Foods	269	\$ 4.49	
1019	Tropicana	Orange Juice	Beverages	358	\$ 3.49	
1020	Nutella	Hazelnut Spread	Breakfast Foods	435	\$ 6.99	
1021	Charmin	Toilet Paper	Household	375	\$ 7.99	
1022	Kellogg's	Rice Krispies	Breakfast Cereals	216	\$ 3.99	
1023	Duracell	AA Batteries	Electronics	240	\$ 0.99	

Item Code	Item Name	Inventory	Price
1054			
1052			
1054			
1001			
1020			

### Task #1: 5 Points

Your first task is to find the correct values for the table in the **red box**, which should be the value of the inventory in stock for each item.

### Task #2: 20 Points

For the final task of this quiz, fill out the table highlighted in the **blue box**. The empty cells should return the item name, and the unit price corresponding to the item code in column J.

- Use the VLOOKUP function for task #2.