

Name \_\_\_\_\_

## GBA 464 - Quiz #1 - answers

Please write the answers to the questions directly on the quiz paper. Please also upload your R code (as a .R script or cut and pasted into a .doc or .pdf) to the link on Blackboard.

Load the data from the file `expense_data.csv` into R. The file contains data from expense reports for a firm's employees.

Field Name	Description
<code>trip</code>	Unique ID# for trip
<code>dept_name</code>	Department of employee
<code>last_name</code>	Employee name
<code>reason_description</code>	Reason for trip
<code>expense_seq</code>	Line item # for individual expenses in trip
<code>account_no</code>	GL account for expense category
<code>account_description</code>	Description of expense category
<code>gross_amount</code>	Gross \$\$ amount of expense

1. What is the average plane fare expense gross amount?

What is the average hotel expense gross amount?

What is the average rental car expense gross amount?

What is the average catering expense gross amount?

```
> #Q1a: what was the average plane fare expense?
> mean(exp[exp$account_description == "plane fare", "gross_amount"])
[1] 773.6134
> ##Q1b what was the average hotel expense?
> mean(exp[exp$account_description == "hotel", "gross_amount"])
[1] 469.8192
> ##Q1c what was the average rental car expense?
> mean(exp[exp$account_description == "rental car", "gross_amount"])
[1] 394.9826
> ##Q1d what was the average catering expense?
> mean(exp[exp$account_description == "catering", "gross_amount"])
[1] 496.7917
```

2. Which department had the highest number of expenses for conference fees?  
Which department had the highest number of expenses for catering?  
Which department had the highest number of expenses for taxis?  
Which department had the highest number of expenses for alcohol?

```
> #Q2: which department had the most expenses for conference fees?
> sort(table(exp[exp$account_description == "conference fees", "dept_name"]), decreasing = TRUE)[1]
Information Technology
35
> #Q2b: which department had the most expenses for catering?
> sort(table(exp[exp$account_description == "catering", "dept_name"]), decreasing = TRUE)[1]
Purchasing
47
> #Q2c: which department had the most expenses for taxis?
> sort(table(exp[exp$account_description == "taxi", "dept_name"]), decreasing = TRUE)[1]
Executive
28
> #Q2d: which department had the most expenses for alcohol?
> sort(table(exp[exp$account_description == "alcohol", "dept_name"]), decreasing = TRUE)[1]
Finance
36
```

3. How many trips included hotel stays in excess of \$500?  
How many trips included hotel stays in excess of \$400?  
How many trips included hotel stays in excess of \$300?  
How many trips included hotel stays in excess of \$200?

```
> #Q3: How many trips included hotel stays in excess of $200?
> nrow(exp[exp$account_description == "hotel" & exp$gross_amount > 500, ])
[1] 87
> #Q3: How many trips included hotel stays in excess of $400?
> nrow(exp[exp$account_description == "hotel" & exp$gross_amount > 400, ])
[1] 139
> #Q3: How many trips included hotel stays in excess of $300?
> nrow(exp[exp$account_description == "hotel" & exp$gross_amount > 300, ])
[1] 167
> #Q3: How many trips included hotel stays in excess of $200?
> nrow(exp[exp$account_description == "hotel" & exp$gross_amount > 200, ])
[1] 184
```

4. What was the sum of all expenses for trip number 2898?  
 What was the sum of all expenses for trip number 2630?  
 What was the sum of all expenses for trip number 2549?  
 What was the sum of all expenses for trip number 2722?

```
> #Q4: what was the sum of all expenses for trip number 2898?
> sum(exp[exp$trip == 2898, "gross_amount"])
[1] 1322.21
> #Q4: what was the sum of all expenses for trip number 2630?
> sum(exp[exp$trip == 2630, "gross_amount"])
[1] 472.76
> #Q4: what was the sum of all expenses for trip number 2549?
> sum(exp[exp$trip == 2549, "gross_amount"])
[1] 2219.89
> #Q4: what was the sum of all expenses for trip number 2722?
> sum(exp[exp$trip == 2722, "gross_amount"])
[1] 1550.86
```

5. What are the last names of the employees who submitted the top three most expensive plane ticket expenses?  
 What are the last names of the employees who submitted the top three most expensive hotel expenses?  
 What are the last names of the employees who submitted the top three most expensive plane ticket expenses?  
 What are the last names of the employees who submitted the top three most expensive plane ticket expenses?

```
> ## a workable (but less readable) syntax
> exp[exp$account_description == "plane fare", ][order(-exp[exp$account_description == "plane fare", "gross_a
mount" ]), ][1:3, c("trip", "last_name", "account_description", "gross_amount")]
  trip last_name account_description gross_amount
61  2380   Parker         plane fare    1396.19
1531 2880    Robin         plane fare    1276.37
1939 3020     Marks         plane fare    1246.55
> #Q5: what are the last names of the employees who submitted the 3 most expensive hotel expenses?
> exp[exp$account_description == "hotel", ][order(-exp[exp$account_description == "hotel", "gross_amount" ]),
][1:3, c("trip", "last_name", "account_description", "gross_amount")]
  trip last_name account_description gross_amount
1810 2977   Graham             hotel    1062.95
650  2582   Cassidy             hotel    1000.02
1169 2756   Reader              hotel     953.82
> #Q5: what are the last names of the employees who submitted the 3 most expensive misc expenses?
> exp[exp$account_description == "misc", ][order(-exp[exp$account_description == "misc", "gross_amount" ]), ][
1:3, c("trip", "last_name", "account_description", "gross_amount")]
  trip last_name account_description gross_amount
295  2462    David                misc      70.32
943  2678   Devine                misc      70.00
889  2662  Salgado                misc      69.31
> #Q5: what are the last names of the employees who submitted the 3 most expensive rental care expenses?
> exp[exp$account_description == "rental car", ][order(-exp[exp$account_description == "rental car", "gross_a
mount" ]), ][1:3, c("trip", "last_name", "account_description", "gross_amount")]
  trip last_name account_description gross_amount
56  2378   Martins            rental car     712.61
1434 2848   Buckner            rental car     664.50
751  2618  Robinson            rental car     651.12
```