

# Midterm Project

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## Instructions

This document runs a process that will format recipe data for 2 recipes, "Eggs in a Nest" and "Scalloped Potatoes", so that it can be used for further calculations.

You are required to take the provided recipe documents and use it to create separate data frames for input into 2 separate files.

You are also required to take the provided servings data from the provided recipe documents and export it, along with the recipe name and year, into the provided Recipes.csv file.

*#This will generate a data frame that includes data from the basic "Eggs in a Nest" recipe circa 1936, with the NDB\_No included. The matches were done manually with a combination of single match and picking the best one.*

```
Eggs_in_a_Nest1936.df <- data.frame(
  Recipe = c("Eggs in a Nest"),
  Year = c(1936),
  Amount = c(2.00,5.00,2.67,4.00,0.25,2.00),
  Measure = c("cups","Tbs","oz","lrg","cup","Tbs"),
  NDB_No = c(11371,01077,07029,01123,18069,01001),
  Ingredients = c("Potatoes, mashed, home-prepared, whole milk and margarine
added","Milk, whole, 3.25% milkfat, without added vitamin A and vitamin
D","Ham, sliced, regular (approximately 11% fat)","Egg, whole, raw,
fresh","Bread, white, commercially prepared (includes soft bread
crumbs)","Butter, salted")
)
```

Eggs\_in\_a\_Nest1936.df

##	Recipe	Year	Amount	Measure	NDB_No
## 1	Eggs in a Nest	1936	2.00	cups	11371
## 2	Eggs in a Nest	1936	5.00	Tbs	1077
## 3	Eggs in a Nest	1936	2.67	oz	7029
## 4	Eggs in a Nest	1936	4.00	lrg	1123
## 5	Eggs in a Nest	1936	0.25	cup	18069
## 6	Eggs in a Nest	1936	2.00	Tbs	1001

##	Ingredients
## 1	Potatoes, mashed, home-prepared, whole milk and margarine added
## 2	Milk, whole, 3.25% milkfat, without added vitamin A and vitamin D
## 3	Ham, sliced, regular (approximately 11% fat)

```
## 4                      Egg, whole, raw, fresh
## 5 Bread, white, commercially prepared (includes soft bread crumbs)
## 6                      Butter, salted
```

*#This will generate a data frame that includes data from the basic "Eggs in a Nest" recipe circa 2006, with the NDB\_No included. The matches were done manually with a combination of single match and picking the best one.*

```
Eggs_in_a_Nest2006.df <- data.frame(
  Recipe = c("Eggs in a Nest"),
  Year = c(2006),
  Amount = c(2.00,5.00,2.67,4.00,0.25,2.00),
  Measure = c("cups","Tbs","oz","lrg","cup","Tbs"),
  NDB_No = c(11371,01077,07029,01123,18069,01001),
  Ingredients = c("Potatoes, mashed, home-prepared, whole milk and margarine
added","Milk, whole, 3.25% milkfat, without added vitamin A and vitamin
D","Ham, sliced, regular (approximately 11% fat)","Egg, whole, raw,
fresh","Bread, white, commercially prepared (includes soft bread
crumbs)","Butter, salted")
)
Eggs_in_a_Nest2006.df
```

##	Recipe	Year	Amount	Measure	NDB_No	
## 1	Eggs in a Nest	2006	2.00	cups	11371	
## 2	Eggs in a Nest	2006	5.00	Tbs	1077	
## 3	Eggs in a Nest	2006	2.67	oz	7029	
## 4	Eggs in a Nest	2006	4.00	lrg	1123	
## 5	Eggs in a Nest	2006	0.25	cup	18069	
## 6	Eggs in a Nest	2006	2.00	Tbs	1001	
##						Ingredients
## 1	Potatoes, mashed, home-prepared, whole milk and margarine added					
## 2	Milk, whole, 3.25% milkfat, without added vitamin A and vitamin D					
## 3	Ham, sliced, regular (approximately 11% fat)					
## 4	Egg, whole, raw, fresh					
## 5	Bread, white, commercially prepared (includes soft bread crumbs)					
## 6	Butter, salted					

*#This will generate a data frame that includes data from the basic "Scalloped Potatoes" recipe circa 1936, with the NDB\_No included. The NDB\_no matches were done manually with a combination of single match and picking the best one. The original recipe does not specify what kind of grated cheese to use, so Parmesan is being substituted in because there is not a shredded cheddar listing provided in the FOOD\_DES.txt file.*

```
Scalloped_Potatoes1936.df <- data.frame(
  Recipe = c("Scalloped Potatoes"),
  Year = c(1936),
  Amount = c(4.00,3.00,3.00,1.50,0.25,0.75),
  Measure = c("cups","Tbs","Tbs","cups","lb","cup"),
  NDB_No = c(11354,01001,20082,01077,01032,11943),
```

```

  Ingredients = c("Potatoes, white, flesh and skin, raw", "Butter,
salted", "Wheat flour, white, all-purpose, self-rising, enriched", "Milk,
whole, 3.25% milkfat, with added vitamin D", "Cheese, parmesan,
grated", "Pimento, canned")
)
Scalloped_Potatoes1936.df

```

```

##           Recipe Year Amount Measure NDB_No
## 1 Scalloped Potatoes 1936   4.00    cups  11354
## 2 Scalloped Potatoes 1936   3.00     Tbs   1001
## 3 Scalloped Potatoes 1936   3.00     Tbs  20082
## 4 Scalloped Potatoes 1936   1.50    cups   1077
## 5 Scalloped Potatoes 1936   0.25     lb   1032
## 6 Scalloped Potatoes 1936   0.75     cup  11943
##
##                               Ingredients
## 1           Potatoes, white, flesh and skin, raw
## 2                               Butter, salted
## 3 Wheat flour, white, all-purpose, self-rising, enriched
## 4           Milk, whole, 3.25% milkfat, with added vitamin D
## 5                               Cheese, parmesan, grated
## 6                               Pimento, canned

```

*#This will generate a data frame that includes data from the basic "Scalloped Potatoes" recipe circa 2006, with the NDB\_No included. The matches were done manually with a combination of single match and picking the best one. The recipe calls for 0.5 cup of grated Parmesan instead of the 0.25 cups of shredded cheddar in the Esha research document, so the Parmesan is being substituted in. Also, there is not a shredded cheddar listing provided in the FOOD\_DES.txt file.*

```

Scalloped_Potatoes2006.df<- data.frame(
  Recipe = c("Scalloped Potatoes"),
  Year = c(2006),
  Amount = c(3.00,10.75,1.50,0.50),
  NDB_No = c(11354,06043,01077,01032),
  Measure = c("cups","oz","cups","cup"),
  Ingredients = c("Potatoes, white, flesh and skin, raw", "Soup, cream of
mushroom, canned, condensed", "Milk, whole, 3.25% milkfat, with added vitamin
D", "Cheese, parmesan, grated")
)
Scalloped_Potatoes2006.df

```

```

##           Recipe Year Amount NDB_No Measure
## 1 Scalloped Potatoes 2006   3.00  11354    cups
## 2 Scalloped Potatoes 2006  10.75   6043     oz
## 3 Scalloped Potatoes 2006   1.50   1077    cups
## 4 Scalloped Potatoes 2006   0.50   1032     cup
##
##                               Ingredients
## 1           Potatoes, white, flesh and skin, raw
## 2           Soup, cream of mushroom, canned, condensed

```

```

## 3 Milk, whole, 3.25% milkfat, with added vitamin D
## 4 Cheese, parmesan, grated

#This following code will export the previously created data frames to individual tab delimited files.

#The data frame for the 1936 is being written to a tab-delimited file.
write.table(Eggs_in_a_Nest1936.df, "Eggs_in_a_Nest.1936.tab",
sep="\t",row.names=F)

#The data frame for the 2006 is being written to a tab-delimited file.
write.table(Eggs_in_a_Nest2006.df, "Eggs_in_a_Nest.2006.tab",
sep="\t",row.names=F)

#The data frame for the 1936 is being written to a tab-delimited file.
write.table(Scalloped_Potatoes1936.df, "Scalloped_Potatoes.1936.tab",
sep="\t",row.names=F)

#The data frame for the 2006 is being written to a tab-delimited file.
write.table(Scalloped_Potatoes2006.df, "Scalloped_Potatoes.2006.tab",
sep="\t",row.names=F)

#This following code will read and import the 2 files created above to verify they were created correctly. The files will then be merged with sample data for the Beef Stroganoff recipes in the next section.

#Assigning path to TAB file to variable PathToEIN1936
PathToEIN1936 = "C:/Users/drewm/Documents/GitHub/code-stat700/MidTerm Project/Eggs_in_a_Nest.1936.tab"

#Assigning data from TAB file to data frame
Eggs_in_a_Nest1936.df <- read.delim(PathToEIN1936,header=TRUE,skip= 0,sep = "\t",as.is=TRUE)

#Assigning path to TAB file to variable PathTo2006
PathToEIN2006 = "C:/Users/drewm/Documents/GitHub/code-stat700/MidTerm Project/Eggs_in_a_Nest.2006.tab"

#Assigning data from TAB file to data frame
Eggs_in_a_Nest2006.df <- read.delim(PathToEIN2006,header=TRUE,skip= 0,sep = "\t",as.is=TRUE)

#Assigning path to TAB file to variable PathTo1936
PathToSP1936 = "C:/Users/drewm/Documents/GitHub/code-stat700/MidTerm Project/Scalloped_Potatoes.1936.tab"

#Assigning data from TAB file to data frame
Scalloped_Potatoes1936.df <- read.delim(PathToSP1936,header=TRUE,skip= 0,sep = "\t",as.is=TRUE)

```

*#Assigning path to TAB file to variable PathTo2006*

```
PathToSP2006 = "C:/Users/drewm/Documents/GitHub/code-stat700/MidTerm  
Project/Scalloped_Potatoes.2006.tab"
```

*#Assigning data from TAB file to data frame*

```
Scalloped_Potatoes2006.df <- read.delim(PathToSP2006,header=TRUE,skip= 0,sep  
= "\\t",as.is=TRUE)
```

*#Assigning path to TAB file to variable PathToBS1997*

```
PathToBS1997 = "C:/Users/drewm/Documents/GitHub/code-stat700/MidTerm  
Project/BeefStroganoff.1997.tab"
```

*#Assigning data from TAB file to data frame*

```
Beef_Stroganoff1997.df <- read.delim(PathToBS1997,header=TRUE,skip= 0,sep =  
"",as.is=TRUE)
```

*#Assigning path to TAB file to variable PathToBS2006*

```
PathToBS2006 = "C:/Users/drewm/Documents/GitHub/code-stat700/MidTerm  
Project/BeefStroganoff.2006.tab"
```

*#Assigning data from TAB file to data frame*

```
Beef_Stroganoff2006.df <- read.delim(PathToBS2006,header=TRUE,skip= 0,sep =  
"",as.is=TRUE)
```

*#Now that the files have been verified, it is time to merge the 2 data  
frames.*

```
Eggs_in_a_Nest1936 <- Eggs_in_a_Nest1936.df
```

```
Eggs_in_a_Nest2006 <- Eggs_in_a_Nest2006.df
```

```
Eggs_in_a_Nest1936_2006 <-
```

```
merge.data.frame(Eggs_in_a_Nest1936.df,Eggs_in_a_Nest2006.df,all = TRUE)
```

```
colnames(Eggs_in_a_Nest1936_2006) <-
```

```
c("Recipe", "Year", "Amount", "Measure", "Ndb_No", "Ingredients")
```

```
Eggs_in_a_Nest1936_2006
```

##		Recipe	Year	Amount	Measure	Ndb_No
## 1	Eggs	in a Nest	1936	0.25	cup	18069
## 2	Eggs	in a Nest	1936	2.00	cups	11371
## 3	Eggs	in a Nest	1936	2.00	Tbs	1001
## 4	Eggs	in a Nest	1936	2.67	oz	7029
## 5	Eggs	in a Nest	1936	4.00	lrg	1123
## 6	Eggs	in a Nest	1936	5.00	Tbs	1077
## 7	Eggs	in a Nest	2006	0.25	cup	18069
## 8	Eggs	in a Nest	2006	2.00	cups	11371

```
## 9 Eggs in a Nest 2006 2.00 Tbs 1001
## 10 Eggs in a Nest 2006 2.67 oz 7029
## 11 Eggs in a Nest 2006 4.00 lrg 1123
## 12 Eggs in a Nest 2006 5.00 Tbs 1077
##
## Ingredients
## 1 Bread, white, commercially prepared (includes soft bread crumbs)
## 2 Potatoes, mashed, home-prepared, whole milk and margarine added
## 3 Butter, salted
## 4 Ham, sliced, regular (approximately 11% fat)
## 5 Egg, whole, raw, fresh
## 6 Milk, whole, 3.25% milkfat, without added vitamin A and vitamin D
## 7 Bread, white, commercially prepared (includes soft bread crumbs)
## 8 Potatoes, mashed, home-prepared, whole milk and margarine added
## 9 Butter, salted
## 10 Ham, sliced, regular (approximately 11% fat)
## 11 Egg, whole, raw, fresh
## 12 Milk, whole, 3.25% milkfat, without added vitamin A and vitamin D
```

*#Now that the files have been verified, it is time to merge the 2 data frames.*

```
Scalloped_Potatoes1936 <- Scalloped_Potatoes1936.df
```

```
Scalloped_Potatoes2006 <- Scalloped_Potatoes2006.df
```

```
Scalloped_Potatoes1936_2006 <-
```

```
merge.data.frame(Scalloped_Potatoes1936,Scalloped_Potatoes2006,all = TRUE)
```

```
colnames(Scalloped_Potatoes1936_2006) <-
```

```
c("Recipe", "Year", "Amount", "Measure", "Ndb_No", "Ingredients")
```

```
Scalloped_Potatoes1936_2006
```

```
##
## Recipe Year Amount Measure Ndb_No
## 1 Scalloped Potatoes 1936 0.25 lb 1032
## 2 Scalloped Potatoes 1936 0.75 cup 11943
## 3 Scalloped Potatoes 1936 1.50 cups 1077
## 4 Scalloped Potatoes 1936 3.00 Tbs 1001
## 5 Scalloped Potatoes 1936 3.00 Tbs 20082
## 6 Scalloped Potatoes 1936 4.00 cups 11354
## 7 Scalloped Potatoes 2006 0.50 cup 1032
## 8 Scalloped Potatoes 2006 1.50 cups 1077
## 9 Scalloped Potatoes 2006 3.00 cups 11354
## 10 Scalloped Potatoes 2006 10.75 oz 6043
##
## Ingredients
## 1 Cheese, parmesan, grated
## 2 Pimento, canned
## 3 Milk, whole, 3.25% milkfat, with added vitamin D
## 4 Butter, salted
## 5 Wheat flour, white, all-purpose, self-rising, enriched
## 6 Potatoes, white, flesh and skin, raw
## 7 Cheese, parmesan, grated
```

```
## 8      Milk, whole, 3.25% milkfat, with added vitamin D
## 9      Potatoes, white, flesh and skin, raw
## 10     Soup, cream of mushroom, canned, condensed
```

*#We are now merging the 2 data frames into one data frame so that in can be merged with the Beef Stroganoff recipe data.*

```
EIN_SPDataMerge <-
merge.data.frame(Eggs_in_a_Nest1936_2006,Scalloped_Potatoes1936_2006, all =
TRUE)
colnames(EIN_SPDataMerge) <-
c("Recipe", "Year", "Amount", "Measure", "Ndb_No", "Ingredients")
```

EIN\_SPDataMerge

##	Recipe	Year	Amount	Measure	Ndb_No	
## 1	Eggs in a Nest	1936	0.25	cup	18069	
## 2	Eggs in a Nest	1936	2.00	cups	11371	
## 3	Eggs in a Nest	1936	2.00	Tbs	1001	
## 4	Eggs in a Nest	1936	2.67	oz	7029	
## 5	Eggs in a Nest	1936	4.00	lrg	1123	
## 6	Eggs in a Nest	1936	5.00	Tbs	1077	
## 7	Eggs in a Nest	2006	0.25	cup	18069	
## 8	Eggs in a Nest	2006	2.00	cups	11371	
## 9	Eggs in a Nest	2006	2.00	Tbs	1001	
## 10	Eggs in a Nest	2006	2.67	oz	7029	
## 11	Eggs in a Nest	2006	4.00	lrg	1123	
## 12	Eggs in a Nest	2006	5.00	Tbs	1077	
## 13	Scalloped Potatoes	1936	0.25	lb	1032	
## 14	Scalloped Potatoes	1936	0.75	cup	11943	
## 15	Scalloped Potatoes	1936	1.50	cups	1077	
## 16	Scalloped Potatoes	1936	3.00	Tbs	1001	
## 17	Scalloped Potatoes	1936	3.00	Tbs	20082	
## 18	Scalloped Potatoes	1936	4.00	cups	11354	
## 19	Scalloped Potatoes	2006	0.50	cup	1032	
## 20	Scalloped Potatoes	2006	1.50	cups	1077	
## 21	Scalloped Potatoes	2006	3.00	cups	11354	
## 22	Scalloped Potatoes	2006	10.75	oz	6043	
##						Ingredients
## 1	Bread, white, commercially prepared (includes soft bread crumbs)					
## 2	Potatoes, mashed, home-prepared, whole milk and margarine added					
## 3	Butter, salted					
## 4	Ham, sliced, regular (approximately 11% fat)					
## 5	Egg, whole, raw, fresh					
## 6	Milk, whole, 3.25% milkfat, without added vitamin A and vitamin D					
## 7	Bread, white, commercially prepared (includes soft bread crumbs)					
## 8	Potatoes, mashed, home-prepared, whole milk and margarine added					
## 9	Butter, salted					
## 10	Ham, sliced, regular (approximately 11% fat)					
## 11	Egg, whole, raw, fresh					
## 12	Milk, whole, 3.25% milkfat, without added vitamin A and vitamin D					



```
## 13 Cheese, parmesan, grated
## 14 Pimento, canned
## 15 Milk, whole, 3.25% milkfat, with added vitamin D
## 16 Butter, salted
## 17 Wheat flour, white, all-purpose, self-rising, enriched
## 18 Potatoes, white, flesh and skin, raw
## 19 Cheese, parmesan, grated
## 20 Milk, whole, 3.25% milkfat, with added vitamin D
## 21 Potatoes, white, flesh and skin, raw
## 22 Soup, cream of mushroom, canned, condensed
```

*#Now we are going to update the recipe descriptions for the Beef Stroganoff recipes to match the descriptions in the FOOD\_DES.tx file and add the NDB numbers into each dataframe.*

```
Beef_Stroganoff1997 <- data.frame(
  Recipe = c("Beef Stroganoff"),
  Year = c(1997),
  Amount = Beef_Stroganoff1997.df$Amount,
  Measure = Beef_Stroganoff1997.df$Measure,
  NDB_No = c(13786,01001,20082,06170,01074,02046),
  Ingredients = c("Beef, chuck eye roast, boneless, America's Beef Roast,
separable lean and fat, trimmed to 0\" fat, all grades, raw","Butter,
salted","Wheat flour, white, all-purpose, self-rising, enriched","Soup,
stock, beef, home-prepared","Sour cream, imitation, cultured","Mustard,
prepared, yellow")
)
Beef_Stroganoff1997
```

```
##      Recipe Year Amount Measure NDB_No
## 1 Beef Stroganoff 1997    1.5      lb  13786
## 2 Beef Stroganoff 1997    3.5     Tbs   1001
## 3 Beef Stroganoff 1997    1.0     Tbs  20082
## 4 Beef Stroganoff 1997    1.0     cup   6170
## 5 Beef Stroganoff 1997    3.0     Tbs   1074
## 6 Beef Stroganoff 1997    1.0     tsp   2046
##
```

Ingredients

```
## 1 Beef, chuck eye roast, boneless, America's Beef Roast, separable lean
and fat, trimmed to 0" fat, all grades, raw
```

```
## 2
```

```
Butter, salted
```

```
## 3
```

```
white, all-purpose, self-rising, enriched
```

```
## 4
```

```
Soup, stock, beef, home-prepared
```

```
## 5
```

```
Sour cream, imitation, cultured
```

```
## 6
```

```
Mustard, prepared, yellow
```

Wheat flour,



```

Beef_Stroganoff2006 <- data.frame(
  Recipe = c("Beef Stroganoff"),
  Year = c(2006),
  Amount = Beef_Stroganoff2006.df$Amount,
  Measure = Beef_Stroganoff2006.df$Measure,
  NDB_No = c(13786,04582,01001,11282,11238,06170,01074,02046),
  Ingredients = c("Beef, chuck eye roast, boneless, America's Beef Roast,
separable lean and fat, trimmed to 0\" fat, all grades, raw", "Oil,
canola", "Butter, salted", "Onions, raw", "Mushrooms, shiitake, raw", "Soup,
stock, beef, home-prepared", "Sour cream, imitation, cultured", "Mustard,
prepared, yellow")
)
Beef_Stroganoff2006

##           Recipe Year Amount Measure NDB_No
## 1 Beef Stroganoff 2006      2      lb  13786
## 2 Beef Stroganoff 2006      2      Tbs  4582
## 3 Beef Stroganoff 2006      3      Tbs   1001
## 4 Beef Stroganoff 2006      1       ea  11282
## 5 Beef Stroganoff 2006      1      lb  11238
## 6 Beef Stroganoff 2006      1     cup   6170
## 7 Beef Stroganoff 2006      3     cup   1074
## 8 Beef Stroganoff 2006      1      Tbs   2046
##
Ingredients
## 1 Beef, chuck eye roast, boneless, America's Beef Roast, separable lean
and fat, trimmed to 0" fat, all grades, raw
## 2
Oil, canola
## 3
Butter, salted
## 4
Onions, raw
## 5
Mushrooms, shiitake, raw
## 6
Soup, stock, beef, home-prepared
## 7
Sour cream, imitation, cultured
## 8
Mustard, prepared, yellow

#It is time to merge the merged data frame from the "Eggs in a Nest" and
"Scalloped Potatoes" recipes with the Beef Stroganoff 1997 and 2006 recipe
data.

BeefStrog1997_2006 <-
merge.data.frame(Beef_Stroganoff1997,Beef_Stroganoff2006,all = TRUE)
colnames(BeefStrog1997_2006) <-
c("Recipe", "Year", "Amount", "Measure", "Ndb_No", "Ingredients")

```

## BeefStrog1997\_2006

##		Recipe	Year	Amount	Measure	Ndb_No
## 1	Beef	Stroganoff	1997	1.0	cup	6170
## 2	Beef	Stroganoff	1997	1.0	Tbs	20082
## 3	Beef	Stroganoff	1997	1.0	tsp	2046
## 4	Beef	Stroganoff	1997	1.5	lb	13786
## 5	Beef	Stroganoff	1997	3.0	Tbs	1074
## 6	Beef	Stroganoff	1997	3.5	Tbs	1001
## 7	Beef	Stroganoff	2006	1.0	cup	6170
## 8	Beef	Stroganoff	2006	1.0	lb	11238
## 9	Beef	Stroganoff	2006	1.0	Tbs	2046
## 10	Beef	Stroganoff	2006	1.0	ea	11282
## 11	Beef	Stroganoff	2006	2.0	lb	13786
## 12	Beef	Stroganoff	2006	2.0	Tbs	4582
## 13	Beef	Stroganoff	2006	3.0	cup	1074
## 14	Beef	Stroganoff	2006	3.0	Tbs	1001

##

### Ingredients

## 1

Soup, stock, beef, home-prepared

## 2

Wheat flour,

white, all-purpose, self-rising, enriched

## 3

Mustard, prepared, yellow

## 4 Beef, chuck eye roast, boneless, America's Beef Roast, separable lean and fat, trimmed to 0" fat, all grades, raw

## 5

Sour cream, imitation, cultured

## 6

Butter, salted

## 7

Soup, stock, beef, home-prepared

## 8

Mushrooms, shiitake, raw

## 9

Mustard, prepared, yellow

## 10

Onions, raw

## 11 Beef, chuck eye roast, boneless, America's Beef Roast, separable lean and fat, trimmed to 0" fat, all grades, raw

## 12

Oil, canola

## 13

Sour cream, imitation, cultured

## 14

Butter, salted

```
EIN_SP_Beef_Strog_DataMerge <-  
merge.data.frame(EIN_SPDataMerge,BeefStrog1997_2006,all = TRUE)
```

```
colnames(EIN_SP_Beef_Strog_DataMerge) <-  
c("Recipe","Year","Amount","Measure","Ndb_No","Ingredients")
```

```
EIN_SP_Beef_Strog_DataMerge
```

```
##           Recipe Year Amount Measure Ndb_No  
## 1    Beef Stroganoff 1997   1.00    cup   6170  
## 2    Beef Stroganoff 1997   1.00    Tbs  20082  
## 3    Beef Stroganoff 1997   1.00    tsp   2046  
## 4    Beef Stroganoff 1997   1.50    lb  13786  
## 5    Beef Stroganoff 1997   3.00    Tbs   1074  
## 6    Beef Stroganoff 1997   3.50    Tbs   1001  
## 7    Beef Stroganoff 2006   1.00    cup   6170  
## 8    Beef Stroganoff 2006   1.00    ea  11282  
## 9    Beef Stroganoff 2006   1.00    lb  11238  
## 10   Beef Stroganoff 2006   1.00    Tbs   2046  
## 11   Beef Stroganoff 2006   2.00    lb  13786  
## 12   Beef Stroganoff 2006   2.00    Tbs   4582  
## 13   Beef Stroganoff 2006   3.00    cup   1074  
## 14   Beef Stroganoff 2006   3.00    Tbs   1001  
## 15   Eggs in a Nest 1936   0.25    cup  18069  
## 16   Eggs in a Nest 1936   2.00    cups 11371  
## 17   Eggs in a Nest 1936   2.00    Tbs   1001  
## 18   Eggs in a Nest 1936   2.67    oz   7029  
## 19   Eggs in a Nest 1936   4.00    lrg   1123  
## 20   Eggs in a Nest 1936   5.00    Tbs   1077  
## 21   Eggs in a Nest 2006   0.25    cup  18069  
## 22   Eggs in a Nest 2006   2.00    cups 11371  
## 23   Eggs in a Nest 2006   2.00    Tbs   1001  
## 24   Eggs in a Nest 2006   2.67    oz   7029  
## 25   Eggs in a Nest 2006   4.00    lrg   1123  
## 26   Eggs in a Nest 2006   5.00    Tbs   1077  
## 27   Scalloped Potatoes 1936   0.25    lb   1032  
## 28   Scalloped Potatoes 1936   0.75    cup  11943  
## 29   Scalloped Potatoes 1936   1.50    cups  1077  
## 30   Scalloped Potatoes 1936   3.00    Tbs   1001  
## 31   Scalloped Potatoes 1936   3.00    Tbs  20082  
## 32   Scalloped Potatoes 1936   4.00    cups 11354  
## 33   Scalloped Potatoes 2006   0.50    cup   1032  
## 34   Scalloped Potatoes 2006   1.50    cups  1077  
## 35   Scalloped Potatoes 2006   3.00    cups 11354  
## 36   Scalloped Potatoes 2006  10.75    oz   6043  
##
```

```
Ingredients
```

```
## 1
```

```
Soup, stock, beef, home-prepared
```

```
## 2
```

```
Wheat flour,
```

white, all-purpose, self-rising, enriched	
## 3	
Mustard, prepared, yellow	
## 4 Beef, chuck eye roast, boneless, America's Beef Roast, separable lean and fat, trimmed to 0" fat, all grades, raw	
## 5	
Sour cream, imitation, cultured	
## 6	
Butter, salted	
## 7	
Soup, stock, beef, home-prepared	
## 8	
Onions, raw	
## 9	
Mushrooms, shiitake, raw	
## 10	
Mustard, prepared, yellow	
## 11 Beef, chuck eye roast, boneless, America's Beef Roast, separable lean and fat, trimmed to 0" fat, all grades, raw	
## 12	
Oil, canola	
## 13	
Sour cream, imitation, cultured	
## 14	
Butter, salted	
## 15	Bread, white,
commercially prepared (includes soft bread crumbs)	
## 16	Potatoes, mashed,
home-prepared, whole milk and margarine added	
## 17	
Butter, salted	
## 18	
Ham, sliced, regular (approximately 11% fat)	
## 19	
Egg, whole, raw, fresh	
## 20	Milk, whole, 3.25%
milkfat, without added vitamin A and vitamin D	
## 21	Bread, white,
commercially prepared (includes soft bread crumbs)	
## 22	Potatoes, mashed,
home-prepared, whole milk and margarine added	
## 23	
Butter, salted	
## 24	
Ham, sliced, regular (approximately 11% fat)	
## 25	
Egg, whole, raw, fresh	
## 26	Milk, whole, 3.25%
milkfat, without added vitamin A and vitamin D	
## 27	

```

Cheese, parmesan, grated
## 28
Pimento, canned
## 29
Milk,
whole, 3.25% milkfat, with added vitamin D
## 30
Butter, salted
## 31
Wheat flour,
white, all-purpose, self-rising, enriched
## 32
Potatoes, white, flesh and skin, raw
## 33
Cheese, parmesan, grated
## 34
Milk,
whole, 3.25% milkfat, with added vitamin D
## 35
Potatoes, white, flesh and skin, raw
## 36
Soup, cream of mushroom, canned, condensed

#This section will verify that the data in both the 1936 and 2006 data sets match. If there is a match then the match function will return the vector of the position of the first vector (recipe) in the second vector (recipe);Otherwise an '0' result has been set to return if there is no match. No match is a possible indicator that different ingredients were used at the time each recipe was created, different measurements used between the years, or the incorrect measurements were used on of the recipes relative to the other.

match(Eggs_in_a_Nest1936$Ingredients,Eggs_in_a_Nest2006$Ingredients,nomatch = 0)

## [1] 1 2 3 4 5 6

match(Eggs_in_a_Nest1936$Amount,Eggs_in_a_Nest2006$Amount,nomatch = 0)

## [1] 1 2 3 4 5 1

match(Eggs_in_a_Nest1936$Measure,Eggs_in_a_Nest2006$Measure,nomatch = 0)

## [1] 1 2 3 4 5 2

match(Scalloped_Potatoes1936$Ingredients,Scalloped_Potatoes2006$Ingredients,nomatch = 0)

## [1] 1 0 0 3 4 0

match(Scalloped_Potatoes1936$Amount,Scalloped_Potatoes2006$Amount,nomatch = 0)

## [1] 0 1 1 3 0 0

```

```
match(Scalloped_Potatoes1936$Measure,Scalloped_Potatoes2006$Measure,nomatch = 0)
```

```
## [1] 1 0 0 1 0 4
```

*#This section will import the Recipes.csv file and once file is imported the recipe data will be appended to the existing data in the file;After the append is complete, the Recipes.csv file will be exported out with the new data.*

```
Recipes_csv_import <- read.csv(file="C:/Users/drewm/Documents/GitHub/code-stat700/MidTerm Project/Recipes.csv", header=TRUE, sep=",")
```

```
Eggs_in_a_Nest1936_import <- data.frame(matrix(c("Eggs in a Nest", "1936", "4", "4"), nrow = 1, ncol = 4))  
colnames(Eggs_in_a_Nest1936_import) <-  
c("Recipe", "Year", "MinServings", "MaxServings")
```

```
Recipes_csv_exportEIN <-  
rbind.data.frame(Recipes_csv_import, Eggs_in_a_Nest1936_import)
```

```
Eggs_in_a_Nest2006_import <- data.frame(matrix(c("Eggs in a Nest", "2006", "4", "4"), nrow = 1, ncol = 4))  
colnames(Eggs_in_a_Nest2006_import) <-  
c("Recipe", "Year", "MinServings", "MaxServings")
```

```
Recipes_csv_exportEIN <-  
rbind.data.frame(Recipes_csv_exportEIN, Eggs_in_a_Nest2006_import)
```

*#The Recipes file will now be exported out to as CSV again with its new data*  
`write.table(Recipes_csv_exportEIN, "Recipes.csv", sep=",", row.names=F)`

```
Scalloped_Potatoes1936_import <- data.frame(matrix(c("Scalloped Potatoes", "1936", "8", "8"), nrow = 1, ncol = 4))  
colnames(Scalloped_Potatoes1936_import) <-  
c("Recipe", "Year", "MinServings", "MaxServings")
```

```
Recipes_csv_exportSP <-  
rbind.data.frame(Recipes_csv_exportEIN, Scalloped_Potatoes1936_import)
```

```
Scalloped_Potatoes2006_import <- data.frame(matrix(c("Scalloped Potatoes", "2006", "6", "6"), nrow = 1, ncol = 4))  
colnames(Scalloped_Potatoes2006_import) <-  
c("Recipe", "Year", "MinServings", "MaxServings")
```

```
Recipes_csv_exportSP <-  
rbind.data.frame(Recipes_csv_exportSP, Scalloped_Potatoes2006_import)
```

```
#The Recipes file will now be exported out to as CSV again with its new data  
write.table(Recipes_csv_exportSP, "Recipes.csv", sep="," ,row.names=F)
```