

STATS 506 Problem Set #1

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Problem 1 - Wine Data

1a:

```
# Loaded in the data set and then created a dataframe
# Used the wine.names file to see that the first column is the class of the wine, while the rest pertain to the order from the fi
# Checked to make sure data frame looks good by using head()

wine_file <- read.csv("~/Desktop/STATS506/506_HW1/wine/wine.data", sep=",", header = FALSE)

wine_df <- data.frame(wine_file)

colnames(wine_df) <- c(
  "Class"
  , "Alcohol"
  , "Malic_acid"
  , "Ash"
  , "Alcalinity_of_ash"
  , "Magnesium"
  , "Total_phenols"
  , "Flavanoids"
  , "Nonflavanoid_phenols"
  , "Proanthocyanins"
  , "Color_intensity"
  , "Hue"
  , "OD280/OD315_of_diluted_wines"
  , "Proline"
)

head(wine_df)
```

	Class	Alcohol	Malic_acid	Ash	Alcalinity_of_ash	Magnesium	Total_phenols
1	1	14.23	1.71	2.43	15.6	127	2.80
2	1	13.20	1.78	2.14	11.2	100	2.65
3	1	13.16	2.36	2.67	18.6	101	2.80
4	1	14.37	1.95	2.50	16.8	113	3.85
5	1	13.24	2.59	2.87	21.0	118	2.80
6	1	14.20	1.76	2.45	15.2	112	3.27
		Flavanoids	Nonflavanoid_phenols	Proanthocyanins	Color_intensity	Hue	
1		3.06	0.28	2.29	5.64	1.04	
2		2.76	0.26	1.28	4.38	1.05	
3		3.24	0.30	2.81	5.68	1.03	
4		3.49	0.24	2.18	7.80	0.86	
5		2.69	0.39	1.82	4.32	1.04	
6		3.39	0.34	1.97	6.75	1.05	
		OD280/OD315_of_diluted_wines	Proline				
1			3.92	1065			
2			3.40	1050			
3			3.17	1185			
4			3.45	1480			
5			2.93	735			
6			2.85	1450			

1b:

```
# Information from wine.names:
# class 1 59
# class 2 71
# class 3 48

# Extract data frame class information
class_values <- table(c(wine_df$Class))
class_values
```

1 2 3
59 71 48

Number of wines within each class are as expected!

1c:

1. What is the correlation between alcohol content and color intensity?

```
alc_col_corr <- cor(wine_df$Alcohol, wine_df$Color_intensity)
alc_col_corr
```

```
[1] 0.5463642
```

2. Which class has the highest correlation? Which has the lowest?

```
#' Function to create subsets of the dataset based on wine classes
#
#' @param n n represents each number for the wine classes
#
#' @return dataframe for each class
#' @export
#
#' @examples
class_n <- function(n){
  return(wine_df[wine_df$Class == n, ])
}

class_1 <- class_n(1)

class_2 <- class_n(2)

class_3 <- class_n(3)

# Compare correlations between alcohol and color intensity within each class

class_1_corr <- cor(class_1$Alcohol, class_1$Color_intensity)
names(class_1_corr) <- "Class 1"
class_1_corr
```

```
Class 1
0.4082913
```

```
class_2_corr <- cor(class_2$Alcohol, class_2$Color_intensity)
names(class_2_corr) <- "Class 2"
class_2_corr
```

```
Class 2
0.2697891
```

```
class_3_corr <- cor(class_3$Alcohol, class_3$Color_intensity)
names(class_3_corr) <- "Class 3"
class_3_corr
```

```
Class 3
0.3503777
```

Answer for C2: Class 1 has the highest correlation at .41, while Class 2 has the lowest at .27.

3. What is the alcohol content of the wine with the highest color intensity?

```
# Get the index of the highest color intensity value
highest_col_ind <- which.max(wine_df$Color_intensity)

# Plug this index in to find the corresponding alcohol content level
highest_col_alc_cont <- wine_df$Alcohol[highest_col_ind]

highest_col_alc_cont
```

```
[1] 14.34
```

4. What percentage of wines had a higher content of proanthocyanins compare to ash?

```
wines_higher_proanths <- subset(wine_df, wine_df$Proanthocyanins > wine_df$Ash)

# Quick sanity check: 4th column is ash, 10th column is proanthos
```

```
# all(wines_higher_proanthos[,4] < wines_higher_proanthos[,10])

# Calculate the numerator and denominator for the percentage value
wines_higher_num <- nrow(wines_higher_proanthos)

wines_higher_denom <- nrow(wine_df)

# Calculate the percentage
wines_higher_per <- (wines_higher_num / wines_higher_denom) * 100

wines_higher_per
```

```
[1] 8.426966
```

Answer for C4: 8.42% of wines had a higher content of proanthocyanins compare to ash.

1d:

```
#' Function to create individual data frames per class type (was having an issue with the column names and felt it was easier just
#'
#' @param subset this takes in the subset of data I want to send to the function, and keeps it organized between the 3 different
#'
#' @return a dataframe of average values for variables is returned for the specific subset argument provided
#' @export
#'
#' @examples
class_average_func <- function(subset){
  class_i_avgs <- colMeans(subset)
  names(class_i_avgs) <- NULL
  # had to ensure the format is appropriate for the final result being concatenated of rows of different class averages, so had to
  dim(class_i_avgs) <- c(1,14)
  class_i_df <- data.frame(class_i_avgs)
  # reassigned the original variable names
  colnames(class_i_df) <- colnames(wine_df)
  return(class_i_df)
}

class_1_averages <- class_average_func(class_1)
row.names(class_1_averages) <- "Class 1 Averages"
class_1_averages
```

	Class	Alcohol	Malic_acid	Ash	Alcalinity_of_ash	Magnesium
Class 1 Averages	1	13.74475	2.010678	2.455593	17.03729	106.339
		Total_phenols	Flavanoids	Nonflavanoid_phenols	Proanthocyanins	
Class 1 Averages		2.840169	2.982373	0.29	1.899322	
		Color_intensity	Hue	OD280/OD315_of_diluted_wines	Proline	
Class 1 Averages		5.528305	1.062034		3.157797	1115.712

```
class_2_averages <- class_average_func(class_2)
row.names(class_2_averages) <- "Class 2 Averages"
class_2_averages
```

	Class	Alcohol	Malic_acid	Ash	Alcalinity_of_ash	Magnesium
Class 2 Averages	2	12.27873	1.932676	2.244789	20.23803	94.5493
		Total_phenols	Flavanoids	Nonflavanoid_phenols	Proanthocyanins	
Class 2 Averages		2.258873	2.080845	0.363662	1.630282	
		Color_intensity	Hue	OD280/OD315_of_diluted_wines	Proline	
Class 2 Averages		3.08662	1.056282		2.785352	519.507

```
class_3_averages <- class_average_func(class_3)
row.names(class_3_averages) <- "Class 3 Averages"
class_3_averages
```

	Class	Alcohol	Malic_acid	Ash	Alcalinity_of_ash	Magnesium
Class 3 Averages	3	13.15375	3.33375	2.437083	21.41667	99.3125
		Total_phenols	Flavanoids	Nonflavanoid_phenols	Proanthocyanins	
Class 3 Averages		1.67875	0.7814583	0.4475	1.153542	
		Color_intensity	Hue	OD280/OD315_of_diluted_wines	Proline	
Class 3 Averages		7.39625	0.6827083		1.683542	
Class 3 Averages		629.8958				

```
overall_averages <- class_average_func(wine_df)
row.names(overall_averages) <- "Overall Averages"
overall_averages
```

```
      Class Alcohol Malic_acid      Ash Alcalinity_of_ash
Overall Averages 1.938202 13.00062  2.336348 2.366517      19.49494
      Magnesium Total_phenols Flavanoids Nonflavanoid_phenols
Overall Averages 99.74157      2.295112  2.02927      0.3618539
      Proanthocyanins Color_intensity      Hue
Overall Averages      1.590899      5.05809 0.9574494
      OD280/OD315_of_diluted_wines Proline
Overall Averages      2.611685 746.8933
```

```
# combined all 4 individual 1 x 14 dim data frames using rbind()
final_avg_df <- overall_averages
final_avg_df <- rbind(final_avg_df, class_1_averages)
final_avg_df <- rbind(final_avg_df, class_2_averages)
final_avg_df <- rbind(final_avg_df, class_3_averages)

# final_avg_df
```

1e:

```
class_1_phenols <- wine_df$Total_phenols[wine_df$Class == 1]
class_2_phenols <- wine_df$Total_phenols[wine_df$Class == 2]
class_3_phenols <- wine_df$Total_phenols[wine_df$Class == 3]

t_test_classes_1_2 <- t.test(class_1_phenols, class_2_phenols)
t_test_classes_1_3 <- t.test(class_1_phenols, class_3_phenols)
t_test_classes_2_3 <- t.test(class_2_phenols, class_3_phenols)

print("T test between classes 1 and 2: ")
```

```
[1] "T test between classes 1 and 2: "
```

```
print(t_test_classes_1_2)
```

Welch Two Sample t-test

```
data: class_1_phenols and class_2_phenols
t = 7.4206, df = 119.14, p-value = 1.889e-11
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 0.4261870 0.7364055
sample estimates:
mean of x mean of y
 2.840169 2.258873
```

```
print("T test between classes 1 and 3: ")
```

```
[1] "T test between classes 1 and 3: "
```

```
print(t_test_classes_1_3)
```

Welch Two Sample t-test

```
data: class_1_phenols and class_3_phenols
t = 17.12, df = 98.356, p-value < 2.2e-16
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 1.026801 1.296038
sample estimates:
mean of x mean of y
 2.840169 1.678750
```

```
print("T test between classes 2 and 3: ")
```

```
[1] "T test between classes 2 and 3: "
```

```
print(t_test_classes_2_3)
```

Welch Two Sample t-test

```
data: class_2_phenols and class_3_phenols
t = 7.0125, df = 116.91, p-value = 1.622e-10
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 0.4162855 0.7439610
sample estimates:
mean of x mean of y
2.258873 1.678750
```

Answer for e (interpretation of these results): The test statistic values suggest that the highest difference in phenol levels between classes occurs between Class 1 and Class 3, with a t-value of 17.12, followed by the difference between Class 1 and Class 2 with a t-value of 7.42, and finally the difference between Class 2 and Class 3 with a t-value of 7.01. These are all statistically significant differences, as the p-values are lower than the default alpha value of 0.05 for all 3 comparisons. Class 1 has the highest values of phenol levels with a mean of 2.84, followed by Class 2 with a mean of 2.26. The lowest values of phenol levels is seen in Class 3, which has a mean of 1.68.

Problem 2 - AskAManager.org Data

2a:

```
survey_file <- read.csv("~/Desktop/STATS506/506_HW1/AskAManager.csv", sep=",")

survey_df <- data.frame(survey_file)

# survey_df
```

2b:

```
# Clean up variable names

colnames(survey_df) <- c(
  "Observation"
  , "Timestamp"
  , "Age"
  , "Industry"
  , "Job"
  , "Job_Notes"
  , "Annual_Salary"
  , "Bonus"
  , "Currency"
  , "Other_Currency"
  , "Income_Notes"
  , "Country"
  , "US_State"
  , "City"
  , "Total_Years_Worked"
  , "Years_Worked_In_Industry"
  , "Highest_Level_Of_Education"
  , "Gender"
  , "Race"
)

# survey_df
```

2c:

```
original_row_count <- nrow(survey_df)

survey_df <- survey_df[survey_df$Currency == "USD", ]

usd_row_count <- nrow(survey_df)

cat("Original row count:", original_row_count, "\n")
```

Original row count: 28062

```
cat("Row count of observations of USD currency:", usd_row_count)
```

Row count of observations of USD currency: 23374

2d:

```
# Note to instructor team: I apologize in advance for this cumbersome code, I tried to figure out the factor object in R but stru

# Created upper and lower separate variables to break up age range
min_age <- c("18-24" = 18, "25-34" = 25, "35-44" = 35,
            "45-54" = 45, "55-64" = 55, "65 or over" = 65)

max_age <- c("18-24" = 24, "25-34" = 34, "35-44" = 44,
            "45-54" = 54, "55-64" = 64, "65 or over" = 100)

# Added above two objects into dataframe to break up the Age column into mins and maxes
survey_df$min_age <- min_age[survey_df$Age]
survey_df$max_age <- max_age[survey_df$Age]

# Added 2 columns that constrain the age since we are assuming 18 is the earliest one can work.
survey_df$min_with_constraint <- survey_df$min_age - 18
survey_df$max_with_constraint <- survey_df$max_age - 18

# Created min and max variables to break up the range in the "Total_Years_Worked" column
min_total_years <- c("1 year or less" = 0, "2 - 4 years" = 2,
                    "5-7 years" = 5, "8 - 10 years" = 8,
                    "11 - 20 years" = 11, "21 - 30 years" = 21,
                    "31 - 40 years" = 31, "41 years or more" = 41)

max_total_years <- c("1 year or less" = 1, "2 - 4 years" = 4,
                    "5-7 years" = 7, "8 - 10 years" = 10,
                    "11 - 20 years" = 20, "21 - 30 years" = 30,
                    "31 - 40 years" = 40, "41 years or more" = 82)

# Created min and max variables to break up the range in the "Years_Worked_In_Industry" column
min_industry_years <- c("1 year or less" = 0, "2 - 4 years" = 2,
                       "5-7 years" = 5, "8 - 10 years" = 8,
                       "11 - 20 years" = 11, "21 - 30 years" = 21,
                       "31 - 40 years" = 31, "41 years or more" = 41)

max_industry_years <- c("1 year or less" = 1, "2 - 4 years" = 4,
                       "5-7 years" = 7, "8 - 10 years" = 10,
                       "11 - 20 years" = 20, "21 - 30 years" = 30,
                       "31 - 40 years" = 40, "41 years or more" = 82)

# Added all 4 of these to my existing dataframe
survey_df$min_total_years <- min_total_years[survey_df$Total_Years_Worked]
survey_df$max_total_years <- max_total_years[survey_df$Total_Years_Worked]
survey_df$min_industry_years <- min_industry_years[survey_df$Years_Worked_In_Industry]
survey_df$max_industry_years <- max_industry_years[survey_df$Years_Worked_In_Industry]

# Created a new dataframe with the following logical conditions embedded:
# 1. min total years worked must be no more than max possible years of experience
#    i.e. if someone is in the 25-34 age range, they could have worked no more than 34-18 = 16 years. For our dataset to include

# 2. minimum indsutry years must be no more than max total years worked
#    i.e. if someone has worked 8-10 years, to include all PLAUSIBLE observations, we need to include all observations that have
survey_df_logical <- survey_df[survey_df$min_total_years <= survey_df$max_with_constraint
                              & survey_df$min_industry_years <= survey_df$max_total_years
                              , ]

cat("We have removed", usd_row_count - nrow(survey_df_logical), "values from our dataset that are not possible observations")
```

We have removed 245 values from our dataset that are not possible observations

```
# Sanity check to understand edge cases:
```

```
# survey_df_logical[c("Age", "Total_Years_Worked", "Years_Worked_In_Industry", "min_total_years", "max_total_years", "min_industr
```

2e:

```
# Exploring:  
unique(survey_df_logical[c("Industry")])
```

```
Industry  
1  
Education (Higher Education)  
3  
Accounting, Banking & Finance  
4  
Nonprofits  
7  
Publishing  
8  
Education (Primary/Secondary)  
9  
Computing or Tech  
14  
Law  
17  
Business or Consulting  
18  
Art & Design  
21  
Health care  
24  
Government and Public Administration  
25  
Public Library  
30  
Engineering or Manufacturing  
32  
Media & Digital  
53  
Marketing, Advertising & PR  
63  
Property or Construction  
65  
Biotechnology  
72  
Aerospace contracting  
89  
Sales  
91  
Energy  
98  
Environmental regulation  
108  
Hospitality & Events  
128  
Medical Devices  
130  
Academic research (Psychology)  
137  
Social Work  
138  
public library  
153  
Biopharma  
154  
Insurance  
159  
STEM research  
161  
Libraries  
175  
Architecture  
179  
Recruitment or HR  
186  
Retail  
189  
Academic Medicine  
213  
Commercial Real Estate
```

215
Pet care industry (dog training/walking)
225
Politics
232
Animal Health Product Manufacturing
243
between book publishing and technology really
249
Utilities & Telecommunications
250
Pharmaceuticals
262
Agriculture or Forestry
268
Philanthropy
281
Real Estate
285
Transport or Logistics
288
Consulting
290
Environmental Consulting
297
Archaeology / Cultural Resource Management
298
Museum
303
Public library
304
Biotech
361
374
"Government Relations" (Lobbying)
403
Software as a Service SaaS
405
Public health in higher education
408
Business Services
416
Law Enforcement & Security
417
Manufacturing and distributing
443
Food manufacturing
470
Research and development
484
Entertainment
506
B2B Services
512
Oil and Gas
565
Manufacturing
584
Veterinary medicine
633
Health Insurance
638
Government contractor
647
Public health
653
Renewable energy
680
publishing
684
Aerospace
721
Manufacturing
753
Public Library (technically City Govt.?)
801

Educational Technology – hybrid

Librarian
879
Food Service
891
Pharma
901
Aerospace/Defense
916
Leisure, Sport & Tourism
917
Management Consulting
919
Pharmaceutical
923
Pharmaceutical
930
Academic publishing
932
Gas & Oil
937
Defense contracting
973
International development (multilateral donor)
987
project management
1000
Apparel manufacture
1001
auto repair
1019
Life Sciences
1025
medical device design and manufacturing
1028
Chemical Manufacturing
1033
Editor in educational publishing
1067
trade association/membership
1084
Food service
1096
Work-Study
1101
Science
1102
Learning & Development
1147
manufacturing
1153
Museum – Nonprofit
1154
real estate
1156
wholesale distribution
1163
Research Administration
1188
Scientific research
1289
Tech
1294
Healthcare IT
1319
Academic Publishing
1349
Municipal library
1358
Eap
1376
Medical Library
1380
Fire protection
1382
Environmental Science
1387

pharma /

Music: freelance, performing and education
1390
architecture
1433
Oil & Gas
1436
Libraries & Archives
1456
International Development
1462
Pharma/Biotech
1481
Academic/nonprofit research
1484
Public health
1487
Synthetic Chemical Manufacturing
1500
list that? Not all libraries are govt jobs)
1522
Real estate services
1539
Automotive finance and insurance
1565
Gambling
1570
Museums: Nonprofit
1583
Libraries and Archives (Academic)
1586
Archaeology
1593
Scientific Research
1621
Municipal Government (Library)
1632
Public Policy
1638
Research
1642
Library/archives
1651
Government- Scientist
1659
Technical/Cybersecurity
1665
Museums
1692
Pharmaceutical research
1721
Sign Language Interpreter, Community
1723
Library
1757
Publishing
1767
Trade Association
1769
Mining/Resource Extraction
1791
Education Publishing
1822
Public Health
1827
Special Collections Library
1901
Museum education
1912
Food & Beverage production
1968
Technical/IT
1999
education writing
2021
High end outdoor furniture manufacturer
2066

Library (its a non-profit and its a govt job – how would I

Logistics
 2084
 Government Relations/Lobbying
 2111
 Real Estate Corp. Office/not a Realtor
 2120
 HR0
 2130
 Publications
 2141
 Workforce development
 2152
 Information sciences
 2160
 clinical research
 2209
 biotech
 2234
 Food and Flavor
 2242
 Renewable Energy
 2254
 Pharmaceutical Manufacturing
 2266
 aerospace data
 2282
 Science/Research
 2332
 Biotech/Pharma
 2341
 Real Estate Investment
 2347
 Supply chain
 2360
 Biotech/pharma
 2376
 technology/SaaS
 2416
 Biomedical Research
 2448
 Government Contracting
 2451
 Librarian
 NA
 <NA>
 2482
 Public Libraries
 2559
 Veterinary Care
 2583
 Federal Contracting/Business Development
 2585
 Aerospace and Defense
 2597
 Environmental/Cultural Resource Management
 2613
 Academia--cell and molecular biology
 2630
 Pharmaceutical R&D
 2649
 Career & Technical Training
 2693
 Higher Education; nonclinical, nonacademic
 2710
 Wholesale - Apparel
 2713
 contractor - not directly govt but they pay me
 2749
 Book publishing
 2755
 labor union
 2759
 Educational technology
 2763
 Research & Development
 2847

Fundraising in

Govt

Manufacturing (pharmaceuticals)

2854

Consumer Research

2857

Biotech / Research

2874

they pay my company who in turn pays me

Govt contractor – not direct govt but

2889

Market Research

2901

Gaming

2947

Book Publishing

2956

Translation/transcription

2970

Pharmaceuticals R&D

3011

librarian--Contractor for NASA

3014

Environmental sciences

3020

Federal Government Contracting

3043

State DOT

3054

Analytical Chemistry

3072

Executive Search

3117

Biotechnology

3131

Religion/church

3147

Private company, federal contractor

3183

Title/Real Estate

3198

Church ministry

3203

Compliance

3244

Database subscription services

3245

Corporate sustainability

3263

Oil & gas

3269

Craft Beer Industry

3303

Procurement/Sourcing/Operations

3363

religious educator

3372

Information services (libraries)

3385

Corporate Sustainability

3388

Environmental Planning

3392

Ministry

3408

Funeral Service

3458

Print / Mail

3464

Planning

3482

real estate

3508

apparel design/product development

3530

Religious institution

3548

Defense Contracting

3555

Chemistry
3557
Architecture
3603
Government Relations
3611
Automotive
3669
Real estate
3695
Supply Chain Distribution
3707
Beauty/service industry
3721
Public Librarian
3779
Warehousing
3781
Information Technology
3791
Public Health Research
3797
market research
3800
Administrative Work
3808
project management
3855
Administration
3860
Landscaping/Tree Work
3888
accessibility
3894
Product Management
3899
Biotech / life sciences
3920
Consumer Goods Production
3929
Oil and Gas Safety Training
3932
Communications
3942
Real Estate Development
3943
Cosmetology
3950
Political Campaigning
3955
but in legal/compliance, so back-office
3960
consumer product design
3966
Housekeeper/cook
3975
Consumer Packaged Goods
3993
Staffing Industry
4007
educational publishing
4020
Marketing at a Non Profit
4043
Human Resources
4072
Medical communications
4075
Pharmaceutical Development
4088
Public/Environmental Health
4097
Payroll Software
4102
Environmental
4107

Finance/Investment Management

Instructional Design and Training
4151
Supply Chain
4165
Education/vocational
4173
Mining
4215
Life science capability development
4243
Retail pharmacy
4245
Fitness
4259
Music, education
4261
Mining/Mineral Exploration
4271
Philanthropy
4275
Academic Scientific Research
4306
library
4338
Government Contractor
4400
Corporate Learning and Development
4435
Cannabis
4438
Govtech Software as a Service
4452
Biology/Research
4468
For profit education
4494
pharmaceutical
4526
Beauty /CPG
4545
Environment, health, and safety
4561
(eg. energy efficiency, renewables, etc.)
4562
Energy: oil & gas
4564
Biotech/pharmaceuticals
4586
Environmental Health + Pest Control
4615
Zoo
4637
Legal Services
4643
Food & Beverage
4669
Political Campaigns
4682
Automotive Repair
4687
Community Foundation
4722
Cultural Resources Management/Major Univ.
4732
Veterinarian
4769
public health
4790
chemistry
4809
Librarian in legal setting
4810
Procurement
4818
Academic research (social science)
4822

Clean Energy

Manufacturing/Wholesale
4843
research
4861
Government Affairs/Lobbying
4865
Medical Communications
4882
Telecommunications (GPS)
4886
Food demos
4894
Education services (tutoring)
4945
Pharmaceuticals
4999
Scientist
5036
accounting in death care (funeral & cemetery)
5042
Academic science
5071
Biotech manufacturing
5111
Bioscience Company
5115
Fintech
5141
Physical sciences
5149
Science/Research (Academia)
5158
municipal (public) libraries
5183
Policy research
5212
Museum (University Affiliated)
5249
Libraries (Medical)
5252
Industrial Cleaning & Non Hazardous Transport
5266
Environmental consulting
5275
Tourism
5293
Customer Service
5345
Instructional Design, Aviation Industry
5353
UX Research
5360
Behavioral Health
5362
Health Research
5425
Sales Operations
5478
Fundraising
5507
Biotech
5530
Research – Public Health
5542
Academic research
5544
Office Administration
5552
Defense
5586
Science/research non-academic
5614
Emergency Management
5666
State and federal contractor
5677

Corporate

Service and repair	
5693	
Pharma	
5699	
Restaurant/Food Service	
5715	
Nuclear research	
5750	
Scientific R&D	
5777	
Science (Research, Biology)	
5870	
Market Research	
5905	
Technology	
5988	
Mental health	
6003	
Pet	
6050	
mental health	
6100	
Security	
6105	
biomedical research	
6120	
Museum	
6127	Public Library (might be considered Government, but
that always seems an odd designation...)	
6135	
Religious institute	
6143	
Oil & Gas – Non Destructive Testing	
6155	
Childcare	
6172	
Biotech/Pharmaceuticals	
6190	
Wholesale supplier	
6243	
Politics/Campaigns	
6291	
Global Mobility	
6315	
Archives	
6335	
Biomedical research	
6362	
Restaurant/Service	
6371	
Pharmaceutical Manufacturing	
6379	
Politics/campaigns	
6394	
Library Page (Public county library)	
6401	
Government contractor	
6426	University
tech transfer (higher ed/marketing/writing)	
6442	
Biotech / Pharmaceutical Industry	
6507	
Fundraising for a university	
6509	Energy (oil & gas &
associated products, renewable power, etc)	
6512	
Architecture / Engineering	
6556	Government contracting
(data analytics and program evaluations)	
6562	
Research at a National Laboratory	
6575	
Bio tech	
6594	
Cultural Heritage	
6608	

Wholesale/Distribution
 6648
 music therapy
 6698
 Biotech/Food Safety
 6737
 Marketing technology
 6752
 State-level public transportation agency
 6753
 World Evidence (data for pharma research)
 6770
 Early Childhood Education
 6785
 public libraries
 6807
 Architect
 6808
 Children's Book Wholesale
 6809
 Public safety
 6821
 Biological Sciences
 6840
 Library/Archive/Research Center
 6849
 Training and Professional Services
 6852
 Science academia
 6858
 Biotech research
 6870
 Government contracting
 6902
 various types of printers, mostly Kyocera.
 6948
 Apparel
 6971
 Mortgage
 6973
 Software/programming
 6991
 Energy – Oil and Gas
 7028
 Airline
 7032
 Architect
 7044
 Research & Development (Defense Industry)
 7105
 Religious (church)
 7111
 support professional in a group home
 7118
 Commercial Real Estate – Private Equity
 7131
 Psychology
 7156
 Finance
 7173
 Biotechnology/Life Sciences
 7181
 Library/Archive
 7198
 Organized Labor
 7220
 e-learning
 7224
 Real Estate/ Mortgage
 7233
 Science research
 7235
 Fundraising
 7248
 International development
 7283

Real

My company sells & services

Direct

Distribution
7342
Program management
7411
Big Pharma
7461
Automotive repair
7518
Laboratory research
7548
Aerospace/Aviation
7595
I work for Indeed.com
7596
Libraries
7601
Archives/Library Science
7602
Geospatial
7624
Waste and recycling
7665
Library (Non-profit, but also government?)
7676
Customer service/publishing-adjacent
7680
Food/Beverage Manufacturing- Quality/Laboratory
7697
Academia
7727
consumer products
7779
Library--public
7785
Veterinary services
7786
Wherever I'm assigned via the union
7888
life sciences
7901
Engineering and Environmental Consulting
7906
Restaurant
7965
awards and engraving
8008
Funeral
8040
Political Consulting
8058
Learning and Development
8093
Data Analytics
8096
Luxury Fashion
8097
Clergy
8098
Data Entry
8105
Translation
8186
Food processing
8242
Architectural/Land Planning/Civil Engineering
8251
Gaming (Gambling)
8264
Regulatory Affairs- nutraceuticals
8268
Manufacturing : corporate admin support
8269
Real Estate Investment Support
8275
Government relations
8301

Public

Household Services
8454
Clinical Research
8513
Software
8525
Veterinary
8537
Contract Research
8549
Grocery Distribution
8575
scientific research
8603
Tailoring Service
8633
veterinary biotech
8672
Small business/service company
8679
Biotech Research
8697
Information services (library)
8734
Food Service
8740
Stay-at-home parent
8750
Real estate software
8754
Commercial Building Material Distribution
8767
Consumer Product Organization
8821
Child care
8846
Research and Development, Food and Beverage
8878
IT Security
8882
FinTech/Payment Processing
8884
Lobbying and consulting
8885
Chaplain
8913
Food
8922
Mental health therapist
8938
Caregiver
8963
Food Service --- Baking
9022
Publishing (academic)
9042
Labor Union
9045
Professional Public Librarian
9051
Cancer research, not for profit
9068
Wholesale Trade
9091
Science publishing
9195
restoration
9221
IT MSP
9232
public libraries
9357
Scientific analysis
9366
Low-Voltage Equipment
9394

Architecture and engineering consulting and design
9450
oceanography research
9478
Clinical & Translational Reserach
9535
Food Distribution
9563
Construction, HVAC
9612
Veterinary Diagnostics
9617
Education: preschool
9651
Customer service/call center
9656
Pharma/biotech
9673
Nonprofit scholarly society publisher
9704
Medical Device
9708
Animal Caretaker
9712
Environmental health and safety compliance
9774
Food manufacturing
9789
Beauty
9818
Unions
9823
Pharmaceuticals
9836
Libraries (public)
9851
Consumer goods
9872
Energy Supplier
9873
Food & Beverages
9899
Manufacturing, Chemical
9900
company (please reclassify as you see fit)
9909
Pharmaceutical/Contract Research Organization
9977
Beverage
9980
Food Manufacturing
9987
trade association
9990
Science Research, government
10003
Health and fitness
10043
Real Estate/Development
10050
Science/government
10074
Real estate: title & escrow
10094
Think tank
10105
Family Office
10172
Environmental Sciences
10203
Human Capital Management
10208
Educational publishing / ed tech
10290
Museums & archives
10322

digital marketing within a book publishing

Shared office space
10327
Beverage Production
10346
Political consulting
10366
Public Libraries
10380
not quite nonprofit, not quite consulting
10393
Biotech/pharmaceuticals
10503
Trade association
10537
Life sciences (not in academia)
10546
Professional services
10568
Medical Technology
10569
BioTech
10659
Outdoor industry/repair and maintenance
10703
National laboratory
10728
Analytical lab
10781
Consumer Goods
10840
STEM medical research
10890
Animal health industry
10904
Environmental compliance
10966
Libraries / Archives / Information
10967
Analytics
10980
Travel
10985
Executive Leadership Servis
10989
Corporate Travel Industry
11013
Business Process Outsourcing
11020
biotechnology
11052
Aerospace & Defense
11061
Drug development
11063
Telecommunications
11072
Gyms
11100
Auction House
11136
government contractor, international development
11188
Oil and gas
11197
Apparel
11218
Early childhood education
11243
Energy, Oil & Gas
11315
Library
11320
Summer camp
11388
Administration (food service)
11390

social science research – not quite academia,

Commercial Real Estate
11394
CBD Manufacturing
11452
Brain research
11459
Wine
11475
Libraries (Public)
11495
Protective coatings
11639
Production and Manufacturing
11662
Global Health Consulting
11797
Private investigator at large firm
11870
ECommerce
11902
Consultant
11959
Aerospace and Defense Manufacturing
11967
Executive search
12006
Nonprofit – LORT D Theater
12066
Pharmaceutical manufacturing
12095
Research and Development
12107
Concrete
12109
Animal Health
12125
clinical trials research coordination
12138
AmeriCorps
12182
Vet
12210
Printing
12219
Life Sciences
12255
Virtual reality
12273
Early Education (corporate office)
12295
Community Management
12380
Pet care industry
12381
Real Estate
12401
Medical Research
12406
Food production
12425
Renewable Energy
12442
Instructional Designer
12467
School District Pre-K-12
12530
publishing/edtech
12575
Pest Control
12598
Food & Nutrition
12605
Defense Contractor
12634
Public safety
12692

Restaurant Group
12694
Pharmaceutical industry
12713
Ed Tech
12719
Corporate service management
12749
CALL CENTER
12790
commodities trading
12812
Union/political organizing
12828
profit health care (I couldn't select both)
12838
academic research
12844
mortgage
12933
Pharmaceutical research (chemist)
12967
Religion
12974
Urban Planning
12993
Journalism
13001
Library science / part-time work/study
13016
Public libraries
13046
Public Health- state level
13056
Winery regulatory compliance
13101
Administrative Support
13109
User Experience (UX) Research
13114
Education Consulting
13153
Coffee - Importing
13173
Library and Information Services
13195
University research
13201
Academic Press Production
13238
Pharmaceutical/Biotech
13245
Training
13271
Wine Wholesale
13278
Public affairs / PR
13321
Aerospace
13326
Research at a State University
13375
Office Admin
13470
Agriculture/Agriculture Chemical
13479
Library and Information Science
13519
Fashion
13554
Information
13557
Game development
13559
Private Equity
13609

Non-

Construction
13641
Veterinary
13645
research- mix of Edtech and non profits
13705
Healthcare Information Technology
13751
Fast casual restaurant
13834
function of a large global conglomerate
13886
Beverage Distribution
13906
Nonprofit - legal department
13934
Pharmaceutical Research
13955
Commercial Landscaping
13968
Labor
14054
Ecommerce - Technology
14076
Child Care Resource and Referral Agency
14117
Warehouse- Food and Beverage
14129
Video games
14214
Administrative
14216
Forensics
14224
Educational assessment
14241
strategy consulting
14276
Data/Institutional Research in Higher Education
14284
Science (Laboratory)
14332
Military
14371
Saas
14380
International organization (UN)
14468
Clinical research
14491
I have two jobs. Marketing / Business
14495
Non Profit Theater
14519
Pharmaceuticals/Biotechnology
14634
Beauty, Cosmetics, Fragrance
14641
Film Post-Production
14644
Construction
14696
Childcare
14702
Government Contractor (R&D)
14790
parking
14794
Automotive technician
14836
Language Services
14909
Zoos and Aquariums
14917
Toxicology
14939

Education

I work in the finance

Academia / Research
14942
Libraries/Museums/Archives
14950
Medical supply Wholesale & Warehousing
14998
Music
15041
Educational Research
15057
Consumer/Packaged Goods
15082
Religion
15122
Video Game Industry
15180
Energy/oil
15223
Video Games
15238
Library at a University
15246
Diagnostic Medical Devices
15257
Energy Sector: Oil & Gas
15284
Religious (synagogue)
15351
Preclinical Research
15418
Healthcare technology
15425
Research
15438
Music Licensing
15491
Operational Training
15587
Sports
15591
Education service provider
15616
Entertainment data
15642
Real estate servicea
15649
Industrial Supply
15679
Beverage & Spirits
15689
Outsourcing Services
15788
Freelance Journalism
15850
Animal welfare
15869
Food service
15875
Nonprofit association
15897
Accessibility
15964
LIBRARIES
16069
Textbook Copyeditor
16140
Interior Design (commercial)
16156
Janitorial
16173
University libraries
16283
Funding Intermediary
16364
Auto Mfg.
16378

Translation and Localization
16416
Archives/Libraries
16439
Real Estate Title Company
16449
Pharma/biotechnology
16474
Counseling
16529
Game Development
16537
Automotive
16589
art appraisal
16674
Software Development
16793
Beer sales
16838
Retail real estate
16841
Grocery delivery
16900
Food Industry
16931
Performing Arts
16999
Data Breach
17034
Biotech/Drug Development
17050
CPG / Retail
17128
Heritage
17137
Public library
17139
Property Management
17160
Architecture/Construction
17166
Religious
17176
Education start-up
17230
IT
17276
Online education
17331
finance
17386
Strategy
17456
Research/Social Science
17500
Housing Real Estate Development (nonprofit)
17511
Public Library
17513
e-comm
17565
Wholesale textile manufacture and sales
17644
Sales Operations
17647
Natural resources
17695
Per Sitter
17713
Pension Benefit Administration
17732
Lab Science (Biotech)
17761
Wholesale
17767

Affordable

Horticulture
17777
Supply Chain!
17798
Research – academic
17828
Pet Care
17831
Translation
17852
Pharmaceutical research
18081
Pharmaceutical Industry
18101
Private Sector Emergency Management
18143
Consumer Product Goods
18212
Clinical Research
18352
Publishing: Science, Academic, Technical
18359
Real Estate Affordable Housing
18522
Retail call center
18638
Call center
18722
Market research
18808
Fashion/e-commerce
19034
Consumer Products design
19199
Automotive Repair
19240
Aerospace and Defense/Government Contracting
19250
Survey Research/Public Policy Research
19302
Service
19310
Veterinary m&a
19323 Language Services company, unsure the broad category to use. Our clients are branding agencies, and their clients are frequently (but not always) pharmaceutical companies.
19399
environmental compliance/engineering
19418
Church
19439
Human services
19443
Real estate valuation
19503
Libraries and Archives
19508
Communication Research
19521
Human Resources
19538
Pharma & Biotech
19668
R&D
19669
E-commerce
19681
Energy (Oil & Gas)
19698
Public Opinion Research
19706
Defense
19737
Warehouse
19748
Association Management
19771

Consumer packaged goods
 19784
 Technology
 19796
 Association
 19809
 Technical writing
 19861
 Educational Publishing
 19862
 consulting
 19875
 Mental Health
 19946
 Environmental survey
 19986
 Auction house
 19991
 Real Estate Association
 19996
 Environmental Services
 20071
 Higher education/Libraries
 20184
 management but with customer service included
 20196
 Research and Evaluation
 20200
 Benefits Administration
 20243
 Early Education
 20322
 Medica education
 20392
 Sales operations
 20546
 Internet
 20562
 Auto Repair
 20585
 Food/Quick Service Restaurant (QSR)
 20598
 Intelligence
 20617
 Educational products
 20627
 Libraries/Archives
 20631
 Beauty Manufacturing & Education
 20647
 Storage Facility
 20668
 Museum (<20 employees)
 20679
 science research
 20692
 libraries
 20722
 Content Review – Copyright/DMCA
 20738
 Research Science
 20785
 Industrial & Welding Supplies & Equipment
 20833
 Public Health, local government
 20843
 oil & gas
 20882
 Print publishing
 20897
 Information Services/Libraries
 20916
 Non-profit Theatre
 20969
 Consulting / Professional Services
 20978

Parks and recreation, land

Wholesale

Arts Administration
21039
Tabletop Games Publishing
21125
Survey methodology
21131
Government
21137
Professional services / architecture
21167
Scientific
21207
Medical/Pharmaceutical
21220
Veterinary medicine
21224
Staffing agency
21232
Diversity, Equity & Inclusion
21336
Petroleum
21433
Pharmaceutical manufacturing
21447
Archives
21461
Natural Resources
21509
Brewing
21513
Staffing Firm
21544
Pharma/biotechnology
21552
Commercial Fisherman
21555
Sciences
21573
Purchasing
21629
Manufacturing (medical devices)
21792
Purchasing
21956
Buyer
21966
Software Products
21974
Research and Development Academia
22009
Social science
22048
Behavior analysis/mental health
22088
Clinical research
22104
Operations
22115
Educ tech
22148
Repair facility for heavy duty trucks
22248
Writing and journalism
22299
Information Technology
22380
Historic Preservation
22386
College Athletics
22420
Ecology
22464
Medical technology
22473
E commerce
22487

Biotech/software
 22498
 Corporate Training
 22513
 Print Distributor
 22545
 funeral services
 22574
 Research Scientist, Pharma
 22750
 Haz/Ind/Rad Waste Management
 22819
 Staffing & workforce solutions
 22898
 Fast Food
 22993
 Administration
 23025
 Research & Development (Physical Sciences)
 23036
 Research & Development
 23190
 Pet care/grooming
 23242
 Science Research
 23248
 Food industry
 23275
 Industrial Hygiene
 23280
 political campaign
 23348
 Publishing, content as a service
 23354
 Laundry and Rental
 23417
 Professional services
 23425
 Grantwriting Consultants
 23564
 Pre-primary education
 23572
 Renewable Energy Development
 23594
 Education- museum/public outreach
 23622
 Customer service
 23646
 Trade Associations
 23648
 Real Estate Data and Analytics/Research
 23661
 Interior landscaping
 23663
 and installation for commercial machinery
 23687
 Ecommerce fraud
 23689
 Multilateral Organisation
 23705
 Environmental Consulting
 23754
 E-Commerce
 23806
 Real Estate customer care
 23823
 Background Screening
 23909
 Chemicals
 23971
 Earth sciences
 23975
 Pharmaceutical company
 24016
 DoD Contracting
 24054

Commercial

Delivery

Freelance/Self-Employed Consultant
24056
fitness
24093
Information technology (IT)
24118
Consulting Operations- Big 4
24119
Foodservice
24128
Retired
24145
Bioinformatics
24175
Wealth advisor Research
24207
Digital Marketing
24357
Restaurants & Hospitality
24361
Professional Services
24397
Manufacturing (personal care)
24462
coaching
24536
Chemicals/ Materials
24545
Construction Management
24551
Social sciences research
24566
Government Contracting R&D
24583
Aviation
24585
Pharmaceuticals / Biotech
24598
Professional Association in Finance
24622
MANUFACTURING
24645
biological research
24651
Hospital
24685
Military
24698
Landscape Contracting
24701
Higher education fundraising
24760
Cannabis compliance
24767
Investing
24789
environmental health and safety
24824
aviation
24854
Early childhood education (preschool)
24926
Communications
24939
Animal Care
24977
Cultural Resource Management
24985
Medical Interpreter -(Spanish)
25069
Warehouse
25115
Compliance
25165
Ecommerce
25182

Sourcing & Procurement
25187
Professional Association
25225
Public LIbrary
25229
Public/Research Library
25244
Academia – STEM
25246
Scientific research (industry)
25294
Pharma research
25322
academic publishing
25325
Environmental Restoration
25374
Pharmaceutical/biotechnology
25385
Virtual Assisting
25427
archives (not sure where this would fall)
25458
Archaeology/Cultural Resource Manager
25470
Food and Beverage
25539
Architecture & Construction
25598
Consumer food products
25609
Veterinary care
25612
Rural electrification
25625
Online learning
25627
Psychologist
25727
Biopharmaceuticals
25836
Pharma/ Research
25858
environmental
25866
Environmental
25870
Public health (not medical)
25882
Environment
25884
Environmental health and safety
25885
Sailing Instructor
25911
Consulting
25932
Environmental Consultanting
25936
environmental compliance
25968
Politics/Government Relations
25994
Sales
26090
Env. Consulting
26189
Bitech
26210
Architecture, Engineering, Construction
26221
Landscaping
26266
Animal care
26324

museums &

pharmaceuticals
 26351
 but our entire budget comes from grants)
 26374
 Facilities
 26432
 Landscape Architecture
 26446
 Retail mid level management
 26539
 Political Research
 26542
 Environmnetal
 26575
 EdTech
 26651
 association management
 26749
 student
 26763
 Pharma R&D
 26817
 e-commerce
 26891
 Graduate Student
 26929
 sure where this fits in. Consulting maybe?
 26947
 digital commerce / ecommerce
 26976
 Surveying
 27016
 Supply Chain Operations
 27043
 Maritime
 27096
 Energy, Oil and Gas
 27106
 Maintenance
 27127
 Cleaning
 27136
 Forklift operator warehouse
 27203
 Quality Assurance
 27205
 Manufacturing/Consumer Packaged Goods
 27221
 Oil and gas exploration
 27323
 Biotech R&D
 27412
 It security
 27449
 Administration in MLM
 27514
 Regulatory Affairs
 27520
 Social Research
 27528
 Family office
 27570
 Research Manager – academic institution
 27644
 Student
 27645
 Restaurant
 27646
 Internal Communications
 27680
 Education (Early Childhood Education)
 27764
 Health and Safety
 27779
 Aerospace Manufacturing
 27793

Hybrid Nonprofit Higher Education (we are part of a university)

I work at a property tax management company. Not

Clinical

Waste Management
27817
Rideshare
27820
CPG
27830
Homemaker
27877
User Experience Design
27881
Fast food
27947
Hardware Manufacturing
27958
Research / Gov
27969
Biology
27984
Undergrad student
27985
Concrete Construction
27997
currently a student and don't have a job
28021
Student
28025
Wine & Spirits

I'm

```
low_income <- survey_df_logical[survey_df_logical$Annual_Salary <= 10000 , ]  
low_income
```

	Observation	Timestamp	Age
98	98	4/27/2021 11:05:08	55-64
896	896	4/27/2021 11:16:37	45-54
969	969	4/27/2021 11:17:54	25-34
1608	1608	4/27/2021 11:28:23	25-34
NA	NA	<NA>	<NA>
3888	3888	4/27/2021 12:19:13	35-44
4082	4082	4/27/2021 12:24:27	45-54
4125	4125	4/27/2021 12:25:37	35-44
NA.1	NA	<NA>	<NA>
5212	5212	4/27/2021 13:01:58	25-34
6125	6125	4/27/2021 13:36:14	45-54
6551	6551	4/27/2021 13:55:50	35-44
6984	6984	4/27/2021 14:19:22	25-34
8320	8320	4/27/2021 15:53:30	35-44
8740	8740	4/27/2021 16:34:56	35-44
NA.2	NA	<NA>	<NA>
9000	9000	4/27/2021 17:02:03	35-44
9285	9285	4/27/2021 17:36:26	45-54
9819	9819	4/27/2021 19:00:34	55-64
10171	10171	4/27/2021 20:03:48	35-44
10325	10325	4/27/2021 20:32:26	45-54
10363	10363	4/27/2021 20:40:16	35-44
NA.3	NA	<NA>	<NA>
10779	10779	4/27/2021 22:14:46	45-54
10828	10828	4/27/2021 22:26:53	25-34
11119	11119	4/27/2021 23:24:24	55-64
11271	11271	4/28/2021 0:03:57	25-34
11705	11705	4/28/2021 3:50:48	25-34
11845	11845	4/28/2021 6:00:22	55-64
11901	11901	4/28/2021 6:41:31	45-54
12000	12000	4/28/2021 7:33:09	35-44
NA.4	NA	<NA>	<NA>
12422	12422	4/28/2021 9:46:35	25-34
12616	12616	4/28/2021 10:23:41	35-44
13538	13538	4/28/2021 13:01:52	25-34
13697	13697	4/28/2021 13:30:19	25-34
13779	13779	4/28/2021 13:37:11	35-44
14076	14076	4/28/2021 14:00:13	25-34
14124	14124	4/28/2021 14:04:06	25-34
15239	15239	4/28/2021 16:45:53	18-24
15335	15335	4/28/2021 17:03:17	45-54
15569	15569	4/28/2021 17:11:26	35-44
15733	15733	4/28/2021 17:16:25	18-24

15801	15801	4/28/2021	17:19:39	35-44
15852	15852	4/28/2021	17:21:20	35-44
15886	15886	4/28/2021	17:22:37	25-34
NA.5	NA		<NA>	<NA>
16689	16689	4/28/2021	18:22:07	45-54
16717	16717	4/28/2021	18:24:54	35-44
16981	16981	4/28/2021	19:01:30	45-54
17548	17548	4/28/2021	20:46:27	18-24
17838	17838	4/28/2021	21:34:34	25-34
18141	18141	4/28/2021	22:49:19	25-34
18206	18206	4/28/2021	23:05:58	35-44
18228	18228	4/28/2021	23:13:13	25-34
18434	18434	4/29/2021	0:16:52	45-54
19336	19336	4/29/2021	9:03:46	35-44
19521	19521	4/29/2021	10:06:06	45-54
19537	19537	4/29/2021	10:09:22	35-44
19689	19689	4/29/2021	10:58:44	25-34
20095	20095	4/29/2021	12:44:02	25-34
20209	20209	4/29/2021	13:13:20	45-54
20471	20471	4/29/2021	14:37:40	35-44
20852	20852	4/29/2021	17:50:54	25-34
21050	21050	4/29/2021	20:27:32	25-34
21223	21223	4/29/2021	23:07:19	55-64
21231	21231	4/29/2021	23:23:55	25-34
21288	21288	4/30/2021	0:51:16	55-64
21347	21347	4/30/2021	4:25:27	25-34
21532	21532	4/30/2021	11:45:28	25-34
22379	22379	4/30/2021	19:32:54	55-64
23029	23029	5/1/2021	11:50:43	25-34
23342	23342	5/2/2021	10:08:25	55-64
NA.6	NA		<NA>	<NA>
23622	23622	5/3/2021	14:27:59	35-44
23874	23874	5/3/2021	17:25:03	35-44
23984	23984	5/3/2021	20:19:36	25-34
24165	24165	5/4/2021	11:52:50	25-34
NA.7	NA		<NA>	<NA>
25262	25262	5/6/2021	11:09:05	45-54
NA.8	NA		<NA>	<NA>
26073	26073	5/11/2021	17:48:00	55-64
26138	26138	5/13/2021	17:23:19	45-54
26168	26168	5/14/2021	13:53:55	25-34
26209	26209	5/17/2021	11:05:09	18-24
26224	26224	5/17/2021	17:05:11	25-34
26235	26235	5/17/2021	22:58:04	25-34
NA.9	NA		<NA>	<NA>
26672	26672	8/15/2021	10:48:04	45-54
26749	26749	9/8/2021	21:11:15	18-24
26891	26891	10/26/2021	10:51:42	35-44
27138	27138	10/26/2021	12:47:34	55-64
27643	27643	1/27/2022	14:13:05	18-24
27761	27761	4/9/2022	20:00:55	25-34
27830	27830	6/13/2022	4:47:22	25-34
27883	27883	10/11/2022	4:24:54	18-24
27925	27925	1/11/2023	16:25:11	35-44
27926	27926	1/25/2023	14:50:46	18-24
27972	27972	8/8/2023	7:12:10	25-34
NA.10	NA		<NA>	<NA>
27984	27984	10/10/2023	10:35:37	18-24
27990	27990	10/26/2023	8:17:05	18-24
27997	27997	11/29/2023	19:59:34	18-24
NA.11	NA		<NA>	<NA>
28015	28015	2/19/2024	15:44:04	25-34
28021	28021	3/19/2024	17:40:39	25-34
NA.12	NA		<NA>	<NA>
28060	28060	7/24/2024	12:22:58	18-24
28061	28061	7/26/2024	11:20:45	18-24

Industry

98	Environmental regulation
896	Education (Primary/Secondary)
969	Media & Digital
1608	Agriculture or Forestry
NA	<NA>
3888	accessibility
4082	Retail
4125	Engineering or Manufacturing
NA.1	<NA>

5212	Museum (University Affiliated)
6125	Public Library
6551	Education (Primary/Secondary)
6984	Entertainment
8320	Nonprofits
8740	Stay-at-home parent
NA.2	<NA>
9000	Computing or Tech
9285	Business or Consulting
9819	Marketing, Advertising & PR
10171	Education (Primary/Secondary)
10325	Retail
10363	Nonprofits
NA.3	<NA>
10779	Nonprofits
10828	Computing or Tech
11119	Health care
11271	Business or Consulting
11705	Computing or Tech
11845	Education (Primary/Secondary)
11901	Computing or Tech
12000	Government and Public Administration
NA.4	<NA>
12422	Accounting, Banking & Finance
12616	Law
13538	Education (Primary/Secondary)
13697	Marketing, Advertising & PR
13779	Art & Design
14076	Child Care Resource and Referral Agency
14124	Health care
15239	Computing or Tech
15335	Education (Primary/Secondary)
15569	Government and Public Administration
15733	Business or Consulting
15801	Retail
15852	Hospitality & Events
15886	Computing or Tech
NA.5	<NA>
16689	Publishing
16717	Law
16981	Health care
17548	Education (Higher Education)
17838	Computing or Tech
18141	Computing or Tech
18206	Publishing
18228	Engineering or Manufacturing
18434	Computing or Tech
19336	Insurance
19521	Human Resources
19537	Education (Higher Education)
19689	Engineering or Manufacturing
20095	Computing or Tech
20209	Computing or Tech
20471	Marketing, Advertising & PR
20852	Health care
21050	Health care
21223	Nonprofits
21231	Transport or Logistics
21288	Government and Public Administration
21347	Utilities & Telecommunications
21532	Retail
22379	Social Work
23029	Nonprofits
23342	Sales
NA.6	<NA>
23622	Customer service
23874	Nonprofits
23984	Business or Consulting
24165	Art & Design
NA.7	<NA>
25262	Marketing, Advertising & PR
NA.8	<NA>
26073	Sales
26138	Retail
26168	Professional Services
26209	Media & Digital

26224	
26235	Nonprofits
NA.9	<NA>
26672	Nonprofits
26749	student
26891	Graduate Student
27138	Health care
27643	Media & Digital
27761	Education (Higher Education)
27830	Homemaker
27883	Education (Higher Education)
27925	student
27926	Marketing, Advertising & PR
27972	Computing or Tech
NA.10	<NA>
27984	Undergrad student
27990	Computing or Tech
27997	I'm currently a student and don't have a job
NA.11	<NA>
28015	Education (Higher Education)
28021	Student
NA.12	<NA>
28060	Accounting, Banking & Finance
28061	Computing or Tech
Job	
98	Quality Assurance Lead
896	Special Education Teacher
969	Managing Editor
1608	Chief Data Scientist
NA	<NA>
3888	freelance captioner
4082	Operations Manager
4125	Engineering Supervisor
NA.1	<NA>
5212	Assistant Registrar
6125	Regional Manager
6551	Manager
6984	Chief of Staff
8320	Development Officer
8740	"mum" ;)
NA.2	<NA>
9000	Software Development Lead
9285	Personal Executive Assistant
9819	Senior Marketing Manager
10171	Facilitator
10325	Store Manager
10363	Executive Director
NA.3	<NA>
10779	Program director
10828	Sr Consultant
11119	RN
11271	Analyst
11705	Frontend Engineer
11845	Teacher
11901	Account Manager
12000	Chief Fiscal Officer
NA.4	<NA>
12422	Accounts Payable Specialist
12616	Attorney
13538	Student teacher
13697	Content Specialist
13779	Art Director
14076	Registration and enrollment of Childcare Programs/Employees
14124	Registered Nurse
15239	Product Marketer
15335	Househusband
15569	Digital Media Coordinator
15733	Senior Analyst, Management Consulting
15801	VM BACKOFFICE COORDINATOR
15852	Property Manager
15886	Chief Data Scientist
NA.5	<NA>
16689	Production editor
16717	Counsel
16981	Associate Team Lead – Revenue Cycle
17548	Quality Assurance Auditor

17838 iOS Developer
 18141 Technical Writer
 18206 Online Editor
 18228 QC
 18434 Coach
 19336 Senior Research Analyst
 19521 HR Administrator/Generalist
 19537 Teaching practicum supervisor
 19689 Software Engineer
 20095 Job title
 20209 Founder
 20471 Unemployed
 20852 Medical Biller
 21050 Infection Prevention Associate
 21223 Community Project Manager
 21231 Customer service manager
 21288 Health Administrator
 21347 Senior Data Scientist
 21532 patient services associate
 22379 MSW
 23029 Government Relations Director
 23342 General manager
 NA.6 <NA>
 23622 Web Customer Service Rep.
 23874 Assistant Director of Marketing, International Giving and Engagement
 23984 Realtor
 24165 Freelance Art Director
 NA.7 <NA>
 25262 Content Specialist
 NA.8 <NA>
 26073 Territory Manager
 26138 Regional
 26168 Senior Director, ESG and Investor Relations
 26209 Marketing Coordinator
 26224 supply Planner
 26235 Finance Assistant
 NA.9 <NA>
 26672 Director of Operations
 26749 College Senior
 26891 Graduate Research Assistant – Mechanical Engineering – GA Tech
 27138 Scribe
 27643 homie
 27761 Student
 27830 Homemaker
 27883 Online Tutor
 27925 data science student
 27926 Sales Development Representative
 27972 Data scientist
 NA.10 <NA>
 27984 Student
 27990 Ibterb
 27997 N/A
 NA.11 <NA>
 28015 masters student
 28021 Student
 NA.12 <NA>
 28060 Risk Management Associate
 28061 IT

Job_Notes

98
 896
 969
 1608
 NA
 <NA>
 3888 "freelance" captioner
 means gig work, pay per project
 4082
 4125
 NA.1
 <NA>
 5212 Museum Collections Management. We handle museum object storage, exhibition
 loans, collections acquisitions.
 6125 My library system has 16 locations. 1 Central location, 4 regionals, and the rest are neighborhood or minibranches. I'm a level
 above a regular branch manager.

6551
 Consulting project manager
 6984
 8320
 8740
 NA.2
 <NA>
 9000
 9285
 9819
 10171
 Program manager
 10325
 10363
 NA.3
 <NA>
 10779
 10828
 11119
 11271
 Content Strategist
 11705
 11845
 11901
 12000
 NA.4
 <NA>
 12422
 12616
 an equity member at my firm. I am
 13538
 Am training to be a teacher
 13697
 13779
 14076
 14124
 Float Nurse
 15239
 15335
 15569
 media, photography, & videography Social
 15733
 15801
 15852
 15886
 NA.5
 <NA>
 16689
 16717
 16981
 Medical claims billing
 17548
 17838
 18141
 18206
 18228
 18434
 19336
 19521
 my role as our team is lean I perform both Generalist and Administrative functions in
 19537
 required for state certification. I supervise student teachers and intern teachers during their practicum
 19689
 20095
 20209
 20471
 20852
 for specialist medical group In-house biller
 21050
 21223
 21231
 21288
 21347
 21532
 explain dosing and checking out help find the right products for patients,
 22379

23029
23342
NA.6
<NA>
23622
23874
23984
24165
Advertising
NA.7
<NA>
25262
NA.8
<NA>
26073
26138
26168
26209
26224
26235
NA.9
<NA>
26672
Chief of staff
26749
26891
27138
I edit medical documents
27643
27761
27830
27883
27925
27926
27972
NA.10
<NA>
27984
27990
27997
I don't have one right now
NA.11
<NA>
28015
28021
NA.12
<NA>
28060
28061

	Annual_Salary	Bonus	Currency	Other_Currency
98	58	NA	USD	
896	38	0	USD	
969	61	0	USD	
1608	130	0	USD	
NA	NA	NA	<NA>	<NA>
3888	4000	0	USD	
4082	35	0	USD	
4125	108	5000	USD	
NA.1	NA	NA	<NA>	<NA>
5212	40	0	USD	
6125	70	0	USD	
6551	155	0	USD	
6984	6400	0	USD	
8320	8000	6000	USD	
8740	0	0	USD	
NA.2	NA	NA	<NA>	<NA>
9000	1	130000	USD	
9285	55	NA	USD	55,000
9819	105	NA	USD	
10171	80	0	USD	
10325	60	0	USD	
10363	0	NA	USD	
NA.3	NA	NA	<NA>	<NA>
10779	57	0	USD	
10828	10000	5000	USD	
11119	90	NA	USD	

11271	6600	0	USD	
11705	9600	NA	USD	
11845	65	0	USD	
11901	55	12	USD	
12000	53	0	USD	
NA.4	NA	NA	<NA>	<NA>
12422	5700	NA	USD	
12616	0	185000	USD	
13538	0	0	USD	
13697	57	NA	USD	
13779	54	750	USD	
14076	3200	0	USD	
14124	105	15	USD	
15239	0	0	USD	
15335	0	0	USD	
15569	52	0	USD	
15733	7390	249	USD	
15801	55	4000	USD	
15852	4000	0	USD	
15886	240	100	USD	
NA.5	NA	NA	<NA>	<NA>
16689	80	0	USD	
16717	350	180	USD	
16981	1442	3010	USD	
17548	2400	1000	USD	Converted mine into USD for your easyness
17838	7250	NA	USD	
18141	72	0	USD	
18206	9000	0	USD	
18228	5265	NA	USD	
18434	130	NA	USD	
19336	6209	62000	USD	
19521	40	NA	USD	
19537	1000	0	USD	
19689	145	NA	USD	
20095	80	0	USD	
20209	0	0	USD	
20471	0	NA	USD	
20852	5100	NA	USD	
21050	70	NA	USD	
21223	40	68000	USD	
21231	55	20	USD	
21288	110	NA	USD	
21347	150	0	USD	
21532	4100	NA	USD	
22379	78	0	USD	
23029	0	0	USD	
23342	160	160	USD	
NA.6	NA	NA	<NA>	<NA>
23622	55	NA	USD	
23874	5100	0	USD	
23984	0	200000	USD	
24165	70	NA	USD	
NA.7	NA	NA	<NA>	<NA>
25262	50	0	USD	
NA.8	NA	NA	<NA>	<NA>
26073	40	40000	USD	
26138	100	NA	USD	
26168	185	30000	USD	
26209	36	NA	USD	
26224	65	0	USD	
26235	45	1200	USD	
NA.9	NA	NA	<NA>	<NA>
26672	180	0	USD	
26749	0	0	USD	
26891	2350	0	USD	
27138	44	5	USD	
27643	56	5	USD	5
27761	0	NA	USD	
27830	0	0	USD	
27883	880	NA	USD	
27925	0	8500	USD	
27926	4800	800	USD	
27972	500	NA	USD	
NA.10	NA	NA	<NA>	<NA>
27984	10000	NA	USD	
27990	456	NA	USD	

27997	0	0	USD
NA.11	NA	NA	<NA>
28015	600	NA	USD
28021	0	0	USD
NA.12	NA	NA	<NA>
28060	1200	0	USD
28061	1700	10	USD

Income_Notes

98	
896	
969	
1608	
NA	<NA>
3888	that's 4000 before taxes, so it's actually a good bit less than that
4082	
4125	
NA.1	<NA>
5212	
6125	
6551	
6984	
8320	
8740	
NA.2	<NA>
9000	
9285	
9819	
10171	
10325	
10363	
NA.3	<NA>
10779	Independent contractor
10828	
11119	
11271	
11705	
11845	
11901	Base + commission
12000	
NA.4	<NA>
12422	
12616	I receive bi-weekly draws with end-of-year income distribution.
13538	Student teaching is usually unpaid
13697	
13779	
14076	
14124	
15239	Start up without funding. Compensation is in stocks.
15335	
15569	
15733	
15801	
15852	I also live here.
15886	Additional compensation is expected value of options.
NA.5	<NA>
16689	
16717	
16981	
17548	
17838	
18141	
18206	A part time job- I also teach one class for less money
18228	
18434	
19336	
19521	
19537	I am paid a \$1000 stipend per year per student I supervise.
19689	
20095	
20209	
20471	
20852	
21050	
21223	
21231	
21288	

21347				equity options available
21532				
22379				
23029				We are working on getting funding for salaries but do not have enough to pay everyone yet.
23342				
NA.6				<NA>
23622				
23874				
23984				Commission based realtor
24165				Freelance Pay
NA.7				<NA>
25262	No cost of living raises anymore, only merit raises so they can limit them by telling managers not to praise employees too highly			<NA>
NA.8				<NA>
26073				
26138				
26168				Base salary, 17.5% bonus target, annual RSUs
26209				
26224				
26235				
NA.9				<NA>
26672				
26749				
26891				
27138				
27643				5
27761				
27830				
27883				
27925				housing allowance
27926				
27972				
NA.10				<NA>
27984				
27990				
27997				There is no income right now
NA.11				<NA>
28015				
28021				
NA.12				<NA>
28060				
28061				
	Country	US_State	City	
98	USA	Maryland	Baltimore	
896	USA	Idaho	Pocatello	
969	United States	Maryland	Bethesda	
1608	USA	New Mexico	Santa Fe	
NA	<NA>	<NA>	<NA>	
3888	U.S.	North Carolina	remote	
4082	US	West Virginia	Charleston	
4125	USA	Minnesota	Twin Cities	
NA.1	<NA>	<NA>	<NA>	
5212	USA	District of Columbia	Washington	
6125	United States	Missouri	St. Louis	
6551	usa	Massachusetts	Boston	
6984	USA	New York	New York	
8320	United States	Pennsylvania	Philadelphia	
8740	US	Kentucky	Louisville	
NA.2	<NA>	<NA>	<NA>	
9000	USA	Wisconsin	Madison	
9285	US	Michigan	Bloomfield Hills	
9819	US	California	Los Angeles	
10171	U.S.	Texas	Houston	
10325	USA	Maryland	Bethesda	
10363	Usa	North Dakota	Charlotte	
NA.3	<NA>	<NA>	<NA>	
10779	USA	Michigan	Suburban Deteoit	
10828	United States	District of Columbia	Washington	
11119	USA	Minnesota	Minneapolis	
11271	India		Bangalore	
11705	Cuba		Santa Clara	
11845	USA	California	Bakersfield	
11901	USA	New Hampshire	Manchester	
12000	United States	Ohio	Akron	
NA.4	<NA>	<NA>	<NA>	
12422	United States of America	Texas	Fort Worth	
12616	USA	West Virginia	Huntington	

13538	USA	Connecticut	New. Haven
13697	United States	Virginia	Arlington
13779	USA	Alabama	Birmingham
14076	United States	New York	Kingston
14124	usa	Indiana	Indianapolis
15239	United States	California	Santa Clara
15335	USA	California	Palo Alto
15569	United States	Kansas	Lenexa
15733	Nigeria		Lagos
15801	SWITZERLAND		BASEL
15852	U.S.	Oregon	Salem
15886	United States	California	Oakland
NA.5	<NA>	<NA>	<NA>
16689	USA	New York	NYC
16717	USA	New York	New York
16981	United States	California	Fremont
17548	Pakistan		Karachi
17838	Pakistan		Karachi
18141	United States	Washington	Silverdale
18206	US	Michigan	Ann Arbor
18228	Malaysia		Malaysia
18434	United States		Several
19336	USA	District of Columbia	Washington, DC
19521	United States	Ohio	Cleveland
19537	United States	Pennsylvania	Chambersburg
19689	USA	California	San Francisco
20095	US	Missouri	Missouri
20209	United States	California	San Jose
20471	US	Oregon	Portland
20852	United States	California	Walnut Creek (SF Bay Area)
21050	USA	Pennsylvania	Philadelphia
21223	United States	California	Pleasant Hill
21231	Usa	Pennsylvania	Bristol
21288	US	Illinois	Chicago
21347	USA	Florida	Gainesville
21532	USA	Massachusetts	Boston
22379	Usa	New Mexico	Rio Rancho
23029	United States	Maryland	Lexington Park
23342	Canada		Toronto
NA.6	<NA>	<NA>	<NA>
23622	United States	California	Remotely
23874	USA	Michigan	Ann Arbor
23984	USA	South Carolina	Greenville
24165	America	Illinois	Chicago
NA.7	<NA>	<NA>	<NA>
25262	USA	Ohio	Cincinnati
NA.8	<NA>	<NA>	<NA>
26073	United States	Minnesota	Minneapolis
26138	Usa	New York	New york
26168	United States	Virginia	Reston
26209	United States	Ohio	Holland
26224	US	Colorado	Denver
26235	USA	Wisconsin	Madison
NA.9	<NA>	<NA>	<NA>
26672	USA	District of Columbia	Washington, DC
26749	United States of America	Georgia	Milledgeville
26891	United States	Georgia	Atlanta
27138	USA	California	Los Angeles
27643	us	Alabama	dino
27761	United States	Illinois	Champaign
27830	United States	California	Morgan Hill
27883	India		Mumbai
27925	USA	Texas	San Antonio
27926	USA	Georgia	Milledgeville
27972	Ghana		Accra
NA.10	<NA>	<NA>	<NA>
27984	United States	Michigan	East lansing
27990	Nigeria		Lagos
27997	U.S.A	Pennsylvania	N/A
NA.11	<NA>	<NA>	<NA>
28015	United states	New York	i am a student
28021	US	Illinois	n/a
NA.12	<NA>	<NA>	<NA>
28060	Myanmar	Colorado	Yangon
28061	Burma		Yangon

Total_Years_Worked Years_Worked_In_Industry

98	21 – 30 years	8 – 10 years
896	21 – 30 years	11 – 20 years
969	5–7 years	5–7 years
1608	8 – 10 years	8 – 10 years
NA	<NA>	<NA>
3888	11 – 20 years	2 – 4 years
4082	31 – 40 years	5–7 years
4125	11 – 20 years	8 – 10 years
NA.1	<NA>	<NA>
5212	2 – 4 years	2 – 4 years
6125	21 – 30 years	11 – 20 years
6551	11 – 20 years	8 – 10 years
6984	8 – 10 years	8 – 10 years
8320	11 – 20 years	11 – 20 years
8740	21 – 30 years	8 – 10 years
NA.2	<NA>	<NA>
9000	8 – 10 years	8 – 10 years
9285	21 – 30 years	11 – 20 years
9819	21 – 30 years	11 – 20 years
10171	11 – 20 years	11 – 20 years
10325	11 – 20 years	5–7 years
10363	11 – 20 years	11 – 20 years
NA.3	<NA>	<NA>
10779	21 – 30 years	21 – 30 years
10828	8 – 10 years	8 – 10 years
11119	31 – 40 years	31 – 40 years
11271	8 – 10 years	5–7 years
11705	5–7 years	5–7 years
11845	31 – 40 years	31 – 40 years
11901	21 – 30 years	8 – 10 years
12000	11 – 20 years	8 – 10 years
NA.4	<NA>	<NA>
12422	11 – 20 years	1 year or less
12616	11 – 20 years	8 – 10 years
13538	2 – 4 years	2 – 4 years
13697	2 – 4 years	2 – 4 years
13779	11 – 20 years	11 – 20 years
14076	5–7 years	1 year or less
14124	5–7 years	5–7 years
15239	1 year or less	1 year or less
15335	5–7 years	5–7 years
15569	11 – 20 years	8 – 10 years
15733	2 – 4 years	2 – 4 years
15801	11 – 20 years	2 – 4 years
15852	11 – 20 years	8 – 10 years
15886	5–7 years	5–7 years
NA.5	<NA>	<NA>
16689	21 – 30 years	21 – 30 years
16717	11 – 20 years	11 – 20 years
16981	11 – 20 years	5–7 years
17548	2 – 4 years	2 – 4 years
17838	5–7 years	2 – 4 years
18141	8 – 10 years	2 – 4 years
18206	11 – 20 years	8 – 10 years
18228	2 – 4 years	1 year or less
18434	11 – 20 years	11 – 20 years
19336	11 – 20 years	5–7 years
19521	11 – 20 years	11 – 20 years
19537	11 – 20 years	11 – 20 years
19689	2 – 4 years	2 – 4 years
20095	8 – 10 years	8 – 10 years
20209	21 – 30 years	21 – 30 years
20471	21 – 30 years	5–7 years
20852	8 – 10 years	2 – 4 years
21050	2 – 4 years	2 – 4 years
21223	31 – 40 years	11 – 20 years
21231	11 – 20 years	8 – 10 years
21288	31 – 40 years	21 – 30 years
21347	11 – 20 years	8 – 10 years
21532	8 – 10 years	2 – 4 years
22379	21 – 30 years	5–7 years
23029	8 – 10 years	2 – 4 years
23342	21 – 30 years	21 – 30 years
NA.6	<NA>	<NA>
23622	21 – 30 years	21 – 30 years
23874	11 – 20 years	11 – 20 years

23984	8 - 10 years	2 - 4 years
24165	1 year or less	1 year or less
NA.7	<NA>	<NA>
25262	21 - 30 years	21 - 30 years
NA.8	<NA>	<NA>
26073	31 - 40 years	31 - 40 years
26138	21 - 30 years	21 - 30 years
26168	11 - 20 years	8 - 10 years
26209	2 - 4 years	1 year or less
26224	11 - 20 years	2 - 4 years
26235	2 - 4 years	2 - 4 years
NA.9	<NA>	<NA>
26672	21 - 30 years	8 - 10 years
26749	5-7 years	1 year or less
26891	8 - 10 years	8 - 10 years
27138	21 - 30 years	11 - 20 years
27643	5-7 years	1 year or less
27761	2 - 4 years	2 - 4 years
27830	5-7 years	2 - 4 years
27883	2 - 4 years	2 - 4 years
27925	11 - 20 years	1 year or less
27926	2 - 4 years	1 year or less
27972	2 - 4 years	2 - 4 years
NA.10	<NA>	<NA>
27984	1 year or less	1 year or less
27990	2 - 4 years	2 - 4 years
27997	2 - 4 years	2 - 4 years
NA.11	<NA>	<NA>
28015	2 - 4 years	1 year or less
28021	1 year or less	1 year or less
NA.12	<NA>	<NA>
28060	2 - 4 years	2 - 4 years
28061	2 - 4 years	1 year or less

Highest_Level_Of_Education

98	Master's degree	Gender
896	Master's degree	Woman
969	College degree	Woman
1608	PhD	Woman
NA	<NA>	<NA>
3888	Master's degree	Non-binary
4082	Some college	Woman
4125	College degree	Woman
NA.1	<NA>	<NA>
5212	Master's degree	Woman
6125	Master's degree	Woman
6551	Master's degree	Woman
6984	Master's degree	Man
8320	Master's degree	Woman
8740	Master's degree	Woman
NA.2	<NA>	<NA>
9000	Master's degree	Man
9285	College degree	Woman
9819	College degree	Woman
10171	Master's degree	Woman
10325	College degree	Woman
10363	Master's degree	Other or prefer not to answer
NA.3	<NA>	<NA>
10779	Master's degree	Woman
10828	Master's degree	Woman
11119	College degree	Woman
11271	Some college	Woman
11705	College degree	Man
11845	College degree	Woman
11901	College degree	Woman
12000	Master's degree	Man
NA.4	<NA>	<NA>
12422	Master's degree	Man
12616	Professional degree (MD, JD, etc.)	Woman
13538	Master's degree	Woman
13697	College degree	Woman
13779		Woman
14076	College degree	Woman
14124	College degree	Woman
15239	College degree	Man
15335	PhD	Man
15569	Some college	Man

15733	College degree	Man
15801	Master's degree	Woman
15852	College degree	Man
15886	PhD	Man
NA.5	<NA>	<NA>
16689	Master's degree	Man
16717	Professional degree (MD, JD, etc.)	Man
16981	Some college	Woman
17548	Some college	Man
17838	Master's degree	Man
18141	College degree	Woman
18206	Master's degree	Woman
18228	College degree	Woman
18434	Some college	Non-binary
19336	Master's degree	Woman
19521	College degree	Woman
19537	Master's degree	Woman
19689	College degree	Woman
20095	Other or prefer not to answer	
20209	Some college	Woman
20471	Master's degree	Man
20852	Some college	Woman
21050	Master's degree	Woman
21223	College degree	Woman
21231	Some college	Woman
21288	Master's degree	Woman
21347	Master's degree	Woman
21532	College degree	Woman
22379		Woman
23029	Master's degree	Woman
23342	Some college	Woman
NA.6	<NA>	<NA>
23622	Some college	Woman
23874	Master's degree	Woman
23984	College degree	Woman
24165	Master's degree	Woman
NA.7	<NA>	<NA>
25262	Master's degree	Woman
NA.8	<NA>	<NA>
26073	Some college	Woman
26138	Some college	Man
26168	College degree	Woman
26209	College degree	Woman
26224	Some college	Woman
26235	College degree	Man
NA.9	<NA>	<NA>
26672	Professional degree (MD, JD, etc.)	Woman
26749	Some college	Man
26891	Master's degree	Man
27138	High School	Woman
27643	College degree	Man
27761	College degree	Man
27830	College degree	Woman
27883	College degree	Man
27925	Master's degree	Woman
27926	College degree	Woman
27972	College degree	Man
NA.10	<NA>	<NA>
27984	High School	Man
27990	College degree	Man
27997	Some college	Man
NA.11	<NA>	<NA>
28015	College degree	Woman
28021	College degree Other or prefer not to answer	
NA.12	<NA>	<NA>
28060	Some college	Man
28061	Some college	Man

98	Race
896	White
969	White
1608	White
NA	<NA>
3888	White
4082	White
4125	White

NA.1	<NA>
5212	White
6125	White
6551	White
6984	White
8320	White
8740	White
NA.2	<NA>
9000	White
9285	White
9819	White
10171	White
10325	White
10363	White
NA.3	<NA>
10779	White
10828	White
11119	Another option not listed here or prefer not to answer
11271	Another option not listed here or prefer not to answer
11705	Black or African American, Hispanic, Latino, or Spanish origin
11845	White
11901	White
12000	Black or African American
NA.4	<NA>
12422	Hispanic, Latino, or Spanish origin, White
12616	White
13538	Middle Eastern or Northern African, White
13697	White
13779	White
14076	Asian or Asian American
14124	White
15239	Asian or Asian American
15335	White
15569	White
15733	Black or African American
15801	Hispanic, Latino, or Spanish origin
15852	White
15886	White
NA.5	<NA>
16689	White
16717	White
16981	Black or African American
17548	Asian or Asian American, Another option not listed here or prefer not to answer
17838	Asian or Asian American
18141	White
18206	Hispanic, Latino, or Spanish origin
18228	Asian or Asian American
18434	White
19336	White
19521	White
19537	White
19689	Asian or Asian American, White
20095	Another option not listed here or prefer not to answer
20209	White
20471	White
20852	White
21050	Black or African American
21223	White
21231	White
21288	Black or African American
21347	White
21532	White
22379	White
23029	White
23342	White
NA.6	<NA>
23622	Hispanic, Latino, or Spanish origin
23874	White
23984	White
24165	White
NA.7	<NA>
25262	White
NA.8	<NA>
26073	White
26138	Native American or Alaska Native
26168	White

26209 White
 26224 Asian or Asian American
 26235 White
 NA.9 <NA>
 26672 Another option not listed here or prefer not to answer
 26749 White
 26891 Another option not listed here or prefer not to answer
 27138 White
 27643 White
 27761 Asian or Asian American
 27830 White
 27883 Middle Eastern or Northern African
 27925 Middle Eastern or Northern African, White
 27926 White
 27972 Black or African American
 NA.10 <NA>
 27984 White
 27990 Another option not listed here or prefer not to answer
 27997 Black or African American
 NA.11 <NA>
 28015 Asian or Asian American
 28021 White
 NA.12 <NA>
 28060 Asian or Asian American
 28061 Asian or Asian American

	min_age	max_age	min_with_constraint	max_with_constraint	min_total_years
98	55	64	37	46	21
896	45	54	27	36	21
969	25	34	7	16	5
1608	25	34	7	16	8
NA	NA	NA	NA	NA	NA
3888	35	44	17	26	11
4082	45	54	27	36	31
4125	35	44	17	26	11
NA.1	NA	NA	NA	NA	NA
5212	25	34	7	16	2
6125	45	54	27	36	21
6551	35	44	17	26	11
6984	25	34	7	16	8
8320	35	44	17	26	11
8740	35	44	17	26	21
NA.2	NA	NA	NA	NA	NA
9000	35	44	17	26	8
9285	45	54	27	36	21
9819	55	64	37	46	21
10171	35	44	17	26	11
10325	45	54	27	36	11
10363	35	44	17	26	11
NA.3	NA	NA	NA	NA	NA
10779	45	54	27	36	21
10828	25	34	7	16	8
11119	55	64	37	46	31
11271	25	34	7	16	8
11705	25	34	7	16	5
11845	55	64	37	46	31
11901	45	54	27	36	21
12000	35	44	17	26	11
NA.4	NA	NA	NA	NA	NA
12422	25	34	7	16	11
12616	35	44	17	26	11
13538	25	34	7	16	2
13697	25	34	7	16	2
13779	35	44	17	26	11
14076	25	34	7	16	5
14124	25	34	7	16	5
15239	18	24	0	6	0
15335	45	54	27	36	5
15569	35	44	17	26	11
15733	18	24	0	6	2
15801	35	44	17	26	11
15852	35	44	17	26	11
15886	25	34	7	16	5
NA.5	NA	NA	NA	NA	NA
16689	45	54	27	36	21
16717	35	44	17	26	11
16981	45	54	27	36	11

17548	18	24	0	6	2
17838	25	34	7	16	5
18141	25	34	7	16	8
18206	35	44	17	26	11
18228	25	34	7	16	2
18434	45	54	27	36	11
19336	35	44	17	26	11
19521	45	54	27	36	11
19537	35	44	17	26	11
19689	25	34	7	16	2
20095	25	34	7	16	8
20209	45	54	27	36	21
20471	35	44	17	26	21
20852	25	34	7	16	8
21050	25	34	7	16	2
21223	55	64	37	46	31
21231	25	34	7	16	11
21288	55	64	37	46	31
21347	25	34	7	16	11
21532	25	34	7	16	8
22379	55	64	37	46	21
23029	25	34	7	16	8
23342	55	64	37	46	21
NA.6	NA	NA	NA	NA	NA
23622	35	44	17	26	21
23874	35	44	17	26	11
23984	25	34	7	16	8
24165	25	34	7	16	0
NA.7	NA	NA	NA	NA	NA
25262	45	54	27	36	21
NA.8	NA	NA	NA	NA	NA
26073	55	64	37	46	31
26138	45	54	27	36	21
26168	25	34	7	16	11
26209	18	24	0	6	2
26224	25	34	7	16	11
26235	25	34	7	16	2
NA.9	NA	NA	NA	NA	NA
26672	45	54	27	36	21
26749	18	24	0	6	5
26891	35	44	17	26	8
27138	55	64	37	46	21
27643	18	24	0	6	5
27761	25	34	7	16	2
27830	25	34	7	16	5
27883	18	24	0	6	2
27925	35	44	17	26	11
27926	18	24	0	6	2
27972	25	34	7	16	2
NA.10	NA	NA	NA	NA	NA
27984	18	24	0	6	0
27990	18	24	0	6	2
27997	18	24	0	6	2
NA.11	NA	NA	NA	NA	NA
28015	25	34	7	16	2
28021	25	34	7	16	0
NA.12	NA	NA	NA	NA	NA
28060	18	24	0	6	2
28061	18	24	0	6	2

	max_total_years	min_industry_years	max_industry_years
98	30	8	10
896	30	11	20
969	7	5	7
1608	10	8	10
NA	NA	NA	NA
3888	20	2	4
4082	40	5	7
4125	20	8	10
NA.1	NA	NA	NA
5212	4	2	4
6125	30	11	20
6551	20	8	10
6984	10	8	10
8320	20	11	20
8740	30	8	10
NA.2	NA	NA	NA

9000	10	8	10
9285	30	11	20
9819	30	11	20
10171	20	11	20
10325	20	5	7
10363	20	11	20
NA.3	NA	NA	NA
10779	30	21	30
10828	10	8	10
11119	40	31	40
11271	10	5	7
11705	7	5	7
11845	40	31	40
11901	30	8	10
12000	20	8	10
NA.4	NA	NA	NA
12422	20	0	1
12616	20	8	10
13538	4	2	4
13697	4	2	4
13779	20	11	20
14076	7	0	1
14124	7	5	7
15239	1	0	1
15335	7	5	7
15569	20	8	10
15733	4	2	4
15801	20	2	4
15852	20	8	10
15886	7	5	7
NA.5	NA	NA	NA
16689	30	21	30
16717	20	11	20
16981	20	5	7
17548	4	2	4
17838	7	2	4
18141	10	2	4
18206	20	8	10
18228	4	0	1
18434	20	11	20
19336	20	5	7
19521	20	11	20
19537	20	11	20
19689	4	2	4
20095	10	8	10
20209	30	21	30
20471	30	5	7
20852	10	2	4
21050	4	2	4
21223	40	11	20
21231	20	8	10
21288	40	21	30
21347	20	8	10
21532	10	2	4
22379	30	5	7
23029	10	2	4
23342	30	21	30
NA.6	NA	NA	NA
23622	30	21	30
23874	20	11	20
23984	10	2	4
24165	1	0	1
NA.7	NA	NA	NA
25262	30	21	30
NA.8	NA	NA	NA
26073	40	31	40
26138	30	21	30
26168	20	8	10
26209	4	0	1
26224	20	2	4
26235	4	2	4
NA.9	NA	NA	NA
26672	30	8	10
26749	7	0	1
26891	10	8	10
27138	30	11	20

27643	7	0	1
27761	4	2	4
27830	7	2	4
27883	4	2	4
27925	20	0	1
27926	4	0	1
27972	4	2	4
NA.10	NA	NA	NA
27984	1	0	1
27990	4	2	4
27997	4	2	4
NA.11	NA	NA	NA
28015	4	0	1
28021	1	0	1
NA.12	NA	NA	NA
28060	4	2	4
28061	4	0	1

```
unique(low_income[c("Industry", "Annual_Salary", "Bonus", "Job_Notes")])
```

	Industry	Annual_Salary	Bonus
98	Environmental regulation	58	NA
896	Education (Primary/Secondary)	38	0
969	Media & Digital	61	0
1608	Agriculture or Forestry	130	0
NA	<NA>	NA	NA
3888	accessibility	4000	0
4082	Retail	35	0
4125	Engineering or Manufacturing	108	5000
5212	Museum (University Affiliated)	40	0
6125	Public Library	70	0
6551	Education (Primary/Secondary)	155	0
6984	Entertainment	6400	0
8320	Nonprofits	8000	6000
8740	Stay-at-home parent	0	0
9000	Computing or Tech	1	130000
9285	Business or Consulting	55	NA
9819	Marketing, Advertising & PR	105	NA
10171	Education (Primary/Secondary)	80	0
10325	Retail	60	0
10363	Nonprofits	0	NA
10779	Nonprofits	57	0
10828	Computing or Tech	10000	5000
11119	Health care	90	NA
11271	Business or Consulting	6600	0
11705	Computing or Tech	9600	NA
11845	Education (Primary/Secondary)	65	0
11901	Computing or Tech	55	12
12000	Government and Public Administration	53	0
12422	Accounting, Banking & Finance	5700	NA
12616	Law	0	185000
13538	Education (Primary/Secondary)	0	0
13697	Marketing, Advertising & PR	57	NA
13779	Art & Design	54	750
14076	Child Care Resource and Referral Agency	3200	0
14124	Health care	105	15
15239	Computing or Tech	0	0
15335	Education (Primary/Secondary)	0	0
15569	Government and Public Administration	52	0
15733	Business or Consulting	7390	249
15801	Retail	55	4000
15852	Hospitality & Events	4000	0
15886	Computing or Tech	240	100
16689	Publishing	80	0
16717	Law	350	180
16981	Health care	1442	3010
17548	Education (Higher Education)	2400	1000
17838	Computing or Tech	7250	NA
18141	Computing or Tech	72	0
18206	Publishing	9000	0
18228	Engineering or Manufacturing	5265	NA
18434	Computing or Tech	130	NA
19336	Insurance	6209	62000
19521	Human Resources	40	NA
19537	Education (Higher Education)	1000	0

19689	Engineering or Manufacturing	145	NA
20095	Computing or Tech	80	0
20471	Marketing, Advertising & PR	0	NA
20852	Health care	5100	NA
21050	Health care	70	NA
21223	Nonprofits	40	68000
21231	Transport or Logistics	55	20
21288	Government and Public Administration	110	NA
21347	Utilities & Telecommunications	150	0
21532	Retail	4100	NA
22379	Social Work	78	0
23029	Nonprofits	0	0
23342	Sales	160	160
23622	Customer service	55	NA
23874	Nonprofits	5100	0
23984	Business or Consulting	0	200000
24165	Art & Design	70	NA
25262	Marketing, Advertising & PR	50	0
26073	Sales	40	40000
26138	Retail	100	NA
26168	Professional Services	185	30000
26209	Media & Digital	36	NA
26224		65	0
26235	Nonprofits	45	1200
26672	Nonprofits	180	0
26749	student	0	0
26891	Graduate Student	2350	0
27138	Health care	44	5
27643	Media & Digital	56	5
27761	Education (Higher Education)	0	NA
27830	Homemaker	0	0
27883	Education (Higher Education)	880	NA
27925	student	0	8500
27926	Marketing, Advertising & PR	4800	800
27972	Computing or Tech	500	NA
27984	Undergrad student	10000	NA
27990	Computing or Tech	456	NA
27997	I'm currently a student and don't have a job	0	0
28015	Education (Higher Education)	600	NA
28021	Student	0	0
28060	Accounting, Banking & Finance	1200	0
28061	Computing or Tech	1700	10

Job_Notes

98

896

969

1608

NA

<NA>

3888

"freelance" captioner

means gig work, pay per project

4082

4125

5212

Museum Collections Management. We handle museum object storage, exhibition

loans, collections acquisitions.

6125 My library system has 16 locations. 1 Central location, 4 regionals, and the rest are neighborhood or minibranches. I'm a level above a regular branch manager.

6551

Consulting project manager

6984

8320

8740

9000

9285

9819

10171

Program manager

10325

10363

10779

10828

11119

11271

Content Strategist

11705

11845
11901
12000
12422
12616 I am
an equity member at my firm.
13538
Am training to be a teacher
13697
13779
14076
14124
Float Nurse
15239
15335
15569 Social
media, photography, & videography
15733
15801
15852
15886
16689
16717
16981
Medical claims billing
17548
17838
18141
18206
18228
18434
19336
19521 I perform both Generalist and Administrative functions in
my role as our team is lean
19537 I supervise student teachers and intern teachers during their practicum
required for state certification.
19689
20095
20471
20852 In-house biller
for specialist medical group
21050
21223
21231
21288
21347
21532 help find the right products for patients,
explain dosing and checking out
22379
23029
23342
23622
23874
23984
24165
Advertising
25262
26073
26138
26168
26209
26224
26235
26672
Chief of staff
26749
26891
27138
I edit medical documents
27643
27761
27830
27883
27925
27926
27972

27984
27990
27997
I don't have one right now
28015
28021
28060
28061

```
# Conditions I am setting:
# According to the U.S. Department of Labor, the national average minimum wage is 7.25 per hour. Assuming a full time employee ea

# I am going to thus assume that any observation with an annual salary of under 10,000 (alotting some of that 13,920 for taxes),

low_income <- survey_df_logical[survey_df_logical$Annual_Salary <= 10000 , ]
unique(low_income[c("Industry", "Annual_Salary", "Job_Notes")])
```

	Industry	Annual_Salary
98	Environmental regulation	58
896	Education (Primary/Secondary)	38
969	Media & Digital	61
1608	Agriculture or Forestry	130
NA	<NA>	NA
3888	accessibility	4000
4082	Retail	35
4125	Engineering or Manufacturing	108
5212	Museum (University Affiliated)	40
6125	Public Library	70
6551	Education (Primary/Secondary)	155
6984	Entertainment	6400
8320	Nonprofits	8000
8740	Stay-at-home parent	0
9000	Computing or Tech	1
9285	Business or Consulting	55
9819	Marketing, Advertising & PR	105
10171	Education (Primary/Secondary)	80
10325	Retail	60
10363	Nonprofits	0
10779	Nonprofits	57
10828	Computing or Tech	10000
11119	Health care	90
11271	Business or Consulting	6600
11705	Computing or Tech	9600
11845	Education (Primary/Secondary)	65
11901	Computing or Tech	55
12000	Government and Public Administration	53
12422	Accounting, Banking & Finance	5700
12616	Law	0
13538	Education (Primary/Secondary)	0
13697	Marketing, Advertising & PR	57
13779	Art & Design	54
14076	Child Care Resource and Referral Agency	3200
14124	Health care	105
15239	Computing or Tech	0
15335	Education (Primary/Secondary)	0
15569	Government and Public Administration	52
15733	Business or Consulting	7390
15801	Retail	55
15852	Hospitality & Events	4000
15886	Computing or Tech	240
16689	Publishing	80
16717	Law	350
16981	Health care	1442
17548	Education (Higher Education)	2400
17838	Computing or Tech	7250
18141	Computing or Tech	72
18206	Publishing	9000
18228	Engineering or Manufacturing	5265
18434	Computing or Tech	130
19336	Insurance	6209
19521	Human Resources	40
19537	Education (Higher Education)	1000
19689	Engineering or Manufacturing	145
20095	Computing or Tech	80
20471	Marketing, Advertising & PR	0

20852	Health care	5100
21050	Health care	70
21223	Nonprofits	40
21231	Transport or Logistics	55
21288	Government and Public Administration	110
21347	Utilities & Telecommunications	150
21532	Retail	4100
22379	Social Work	78
23342	Sales	160
23622	Customer service	55
23874	Nonprofits	5100
23984	Business or Consulting	0
24165	Art & Design	70
25262	Marketing, Advertising & PR	50
26073	Sales	40
26138	Retail	100
26168	Professional Services	185
26209	Media & Digital	36
26224		65
26235	Nonprofits	45
26672	Nonprofits	180
26749	student	0
26891	Graduate Student	2350
27138	Health care	44
27643	Media & Digital	56
27761	Education (Higher Education)	0
27830	Homemaker	0
27883	Education (Higher Education)	880
27926	Marketing, Advertising & PR	4800
27972	Computing or Tech	500
27984	Undergrad student	10000
27990	Computing or Tech	456
27997	I'm currently a student and don't have a job	0
28015	Education (Higher Education)	600
28021	Student	0
28060	Accounting, Banking & Finance	1200
28061	Computing or Tech	1700

Job_Notes

98
896
969
1608
NA
<NA>
3888 "freelance" captioner
means gig work, pay per project
4082
4125
5212 Museum Collections Management. We handle museum object storage, exhibition
loans, collections acquisitions.
6125 My library system has 16 locations. 1 Central location, 4 regionals, and the rest are neighborhood or minibranches. I'm a level
above a regular branch manager.
6551
Consulting project manager
6984
8320
8740
9000
9285
9819
10171
Program manager
10325
10363
10779
10828
11119
11271
Content Strategist
11705
11845
11901
12000
12422
12616

an equity member at my firm.

13538

Am training to be a teacher

13697

13779

14076

14124

Float Nurse

15239

15335

15569

Social

media, photography, & videography

15733

15801

15852

15886

16689

16717

16981

Medical claims billing

17548

17838

18141

18206

18228

18434

19336

19521

I perform both Generalist and Administrative functions in

my role as our team is lean

19537

I supervise student teachers and intern teachers during their practicum

required for state certification.

19689

20095

20471

20852

In-house biller

for specialist medical group

21050

21223

21231

21288

21347

21532

help find the right products for patients,

explain dosing and checking out

22379

23342

23622

23874

23984

24165

Advertising

25262

26073

26138

26168

26209

26224

26235

26672

Chief of staff

26749

26891

27138

I edit medical documents

27643

27761

27830

27883

27926

27972

27984

27990

27997

I don't have one right now

28015

28021

28060
28061

```
# I will now remove these improbable low income observations from my data frame:
survey_df_logical_income <- survey_df_logical[survey_df_logical$Annual_Salary > 10000 , ]
# survey_df_logical_income

# Next, I will eliminate unreasonably high values from the dataset:
# First I need to identify these:
income_desc <- survey_df_logical_income[order(-survey_df_logical_income$Annual_Salary), ]
# income_desc[c("Industry", "Annual_Salary", "Job_Notes")]

# I find that if the industry listed is Nonprofits, it is unreasonable to have listed a salary of higher than $100,000; maybe the
survey_df_logical_income <- survey_df_logical_income[-(which(survey_df_logical_income$Annual_Salary > 100000 & survey_df_logical_
```

Problem 3 - Palindromic Numbers

3a:

```
#'This function checks if a given positive integer is a palindrome and returns the
#' reversed digits.
#'
#' @param x A positive integer
#'
#' @return A list of two elements, "isPalindromic", which will be expressed as a logical value ("TRUE" or "FALSE") indicating if
#'
#' @examples
#'
#' @error
isPalindromic <- function(x) {
  # Error message to ensure the input is a positive integer
  if (!is.numeric(x) || x != as.integer(x) || x <= 0) {
    stop("Invalid input: Please provide a positive integer.")
  }

  # Use string manipulation
  str_x <- as.character(x)
  reverse_str_x <- paste(rev(unlist(strsplit(str_x, ""))), collapse = "")
  reverse_num <- as.numeric(reverse_str_x)

  # Check if the original value matches the reversed value
  palindromic_check <- (str_x == reverse_str_x)

  # Account for an input ending in 0 i.e. x = 30. Want to make sure that 0 is reported in the reversal with 03:
  (if ((x %% 10) != 0) {
    return(list(isPalindromic = palindromic_check, reversed = reverse_num))
  } else {
    message("This value ends in 0. In order for R to accurately perform the function, the reversed number will be in the form of
    return(list(isPalindromic = palindromic_check, reversed = reverse_str_x))
  }
  )
}
```

3b:

```
#' This function takes in an inputted positive number and continues incrementing through it till said value satisfies the previous
#'
#' @param num A positive integer
#'
#' @return The next positive integer after the inputted value that is a palindrome
#' @export
#'
#' @examples
nextPalindromic <- function(num) {
  if (!is.numeric(num) || num != as.integer(num) || num <= 0) {
    stop("Invalid input: Please provide a positive integer.")
  }

  next_palindromic <- num + 1
```

```
# Same exact function as above, just without the message about the inputs ending in 0, and without the list being returned incl
isPalindromic <- function(x) {
  str_x <- as.character(x)
  reverse_str_x <- paste(rev(unlist(strsplit(str_x, ""))), collapse = "")
  reverse_num <- as.numeric(reverse_str_x)
  palindromic_check <- (str_x == reverse_str_x)
  return(isPalindromic = palindromic_check)
}

# Continues going through while loop till isPalindromic(next_palindrome) returns TRUE
while (!isPalindromic(next_palindrome)) {
  next_palindrome <- next_palindrome + 1
}

return(next_palindrome)
}
```

3c:

```
cat("c part i:", nextPalindrome(391), "\n")
```

c part i: 393

```
cat("c part ii:", nextPalindrome(9928), "\n")
```

c part ii: 9999

```
cat("c part iii:", nextPalindrome(19272719), "\n")
```

c part iii: 19277291

```
cat("c part iv:", nextPalindrome(109), "\n")
```

c part iv: 111

```
cat("c part v:", nextPalindrome(2), "\n")
```

c part v: 3

Attribution of Sources:

- Problem 1A/1B: header = FALSE
 - Source: <https://forum.posit.co/t/column-names-improperly-read-into-r-studio/179723>
 - For some reason, when I looked at the Class column in my data frame for 1B, I was only seeing 58 observations instead of 59 for class 1.
 - Through this link, I found out that if I don't specify this, R will by default assume the first row is column names, which explained why I was missing it from my data.
- Problem 1d: rbind()
 - Source: <https://www.digitalocean.com/community/tutorials/rbind-function-r>
 - Didn't know how to combine multiple data frames with the same number of columns in one object, found out how through this source
- Problem 2c: cat()
 - Source: <https://www.r-bloggers.com/2022/09/how-to-concatenate-strings-in-r/>
 - wasn't sure of the syntax to print string and int values together in r, searched it up and found out about the concatenation function "cat" in r
- Problem 2d: source for external research
 - Source: <https://www.dol.gov/general/topic/wages/minimumwage#:~:text=The%20federal%20minimum%20wage%20for%20covered%20nonexempt%20employee>
- Problem 2e: sorting in descending order
 - Source: <https://www.datacamp.com/doc/r/sorting>
 - I didn't know how to sort my dataframe based on descending values in a specific column, learned about order(x, -col_name) through this source
- Problem 2e: dropping certain rows based on conditions

- Source: <https://stackoverflow.com/questions/75084373/how-to-remove-rows-by-condition-in-r>
- Didn't know the syntax for only excluding certain rows that meet more than one condition and including all others, learned it through this page
- Problem 3a: string manipulation
 - Source: <https://www.geeksforgeeks.org/r-program-to-check-if-a-string-is-a-palindrome/>
 - Used this cite to figure out/ confirm string manipulation code