Week 4 Homework

Olivia Townsend

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## Import Data

First, we set our working directory and import the data file "california-state-university-2015.csv" as a data frame called "df".

setwd("~/Desktop/255E")  
df<-read.csv("data/california-state-university-2015.csv")

## Subset Job Titles

We were assigned the job title "ADMINISTRATOR" and need to see how many classes there are. To do this, we use the "levels" function and find that there are 4 classes. We then subset out the base pay for the following: ADMINISTRATOR I, ADMINISTRATOR II, ADMINISTRATOR III, ADMINISTRATOR IV.

levels(df$Job.Title)

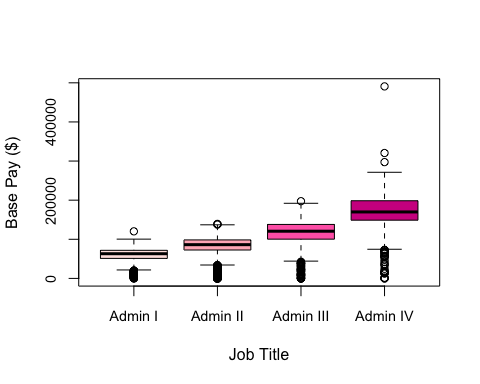
## [1] "ACCOMPANIST I"   
## [2] "ACCOMPANIST II"   
## [3] "ACCOUNTANT I"   
## [4] "ACCOUNTANT II"   
## [5] "ACCOUNTANT III"   
## [6] "ACCOUNTING CLERK"   
## [7] "ACCOUNTING TECHNICIAN I"   
## [8] "ACCOUNTING TECHNICIAN II"   
## [9] "ACCOUNTING TECHNICIAN III"   
## [10] "ADMINISTRATIVE ANALYST/SPECIALIST -10/12"   
## [11] "ADMINISTRATIVE ANALYST/SPECIALIST -11/12"   
## [12] "ADMINISTRATIVE ANALYST/SPECIALIST -12 MONTH"   
## [13] "ADMINISTRATIVE SUPPORT ASSISTANT -10/12"   
## [14] "ADMINISTRATIVE SUPPORT ASSISTANT -11/12"   
## [15] "ADMINISTRATIVE SUPPORT ASSISTANT -12 MONTH"   
## [16] "ADMINISTRATIVE SUPPORT COORDINATOR -10/12"   
## [17] "ADMINISTRATIVE SUPPORT COORDINATOR -11/12"   
## [18] "ADMINISTRATIVE SUPPORT COORDINATOR -12 MONTH"   
## [19] "ADMINISTRATIVE TRAINEE"   
## [20] "ADMINISTRATOR I"   
## [21] "ADMINISTRATOR II"   
## [22] "ADMINISTRATOR II - ACADEMIC YEAR"   
## [23] "ADMINISTRATOR III"   
## [24] "ADMINISTRATOR III - ACADEMIC YEAR"   
## [25] "ADMINISTRATOR IV"   
## [26] "AIR CONDITIONING/REFRIGERATION MECHANIC"   
## [27] "ANALYST/PROGRAMMER -11/12"   
## [28] "ANALYST/PROGRAMMER -12"   
## [29] "ASSOCIATE, ACADEMIC AND INSTITUTIONAL STUDIES I"   
## [30] "ASSOCIATE, ACADEMIC AND INSTITUTIONAL STUDIES II"   
## [31] "ASSOCIATE, ACADEMIC AND INSTITUTIONAL STUDIES III"   
## [32] "ATHLETIC EQUIPMENT ATTENDANT I"   
## [33] "ATHLETIC EQUIPMENT ATTENDANT II"   
## [34] "ATHLETIC TRAINER I - 12 MONTH"   
## [35] "ATHLETIC TRAINER I - AY"   
## [36] "ATHLETIC TRAINER II - 12 MONTH"   
## [37] "ATHLETIC TRAINER II - AY"   
## [38] "AUTOMOTIVE/EQUIPMENT MECHANIC"   
## [39] "BROADCAST ENGINEER -12 MONTH"   
## [40] "BUDGET ANALYST"   
## [41] "BUILDING SERVICE ENGINEER"   
## [42] "BUYER I"   
## [43] "BUYER II"   
## [44] "BUYER II - LEAD"   
## [45] "BUYER III"   
## [46] "BUYER III - LEAD"   
## [47] "BUYER TRAINEE"   
## [48] "CARPENTER"   
## [49] "CASUAL WORKER"   
## [50] "CERTIFIED AIR CONDITIONING/REFRIGERATION MECHANIC APPRENTICE"  
## [51] "CERTIFIED AUTOMOTIVE/EQUIPMENT MECHANIC APPRENTICE"   
## [52] "CERTIFIED BUILDING SERVICE ENGINEER APPRENTICE"   
## [53] "CERTIFIED ELECTRICIAN APPRENTICE"   
## [54] "CERTIFIED PLUMBER APPRENTICE"   
## [55] "CHANCELLOR OF THE CALIFORNIA STATE UNIVERSITY"   
## [56] "CLINICAL ASSISTANT"   
## [57] "CLINICAL LABORATORY SCIENTIST I"   
## [58] "CLINICAL LABORATORY SCIENTIST II"   
## [59] "CMA CARPENTER I"   
## [60] "CMA CHIEF ENGINEER"   
## [61] "CMA ELECTRICIAN I"   
## [62] "CMA GROUNDSKEEPER"   
## [63] "CMA INSTRUCTIONAL FACULTY -CRUISE-AY"   
## [64] "CMA LEAD GROUNDSKEEPER"   
## [65] "CMA MAINTENANCE MECHANIC"   
## [66] "CMA MATERIALS & STORES SPECIALIST"   
## [67] "CMA PAINTER I"   
## [68] "CMA STATIONARY ENGINEER"   
## [69] "COACH - 10 MONTH"   
## [70] "COACH - 12 MONTH"   
## [71] "COACH - ACADEMIC YEAR"   
## [72] "COACHING ASSISTANT - 10 MONTH"   
## [73] "COACHING ASSISTANT - 12 MONTH"   
## [74] "COACHING ASSISTANT - ACADEMIC YEAR"   
## [75] "COACHING SPECIALIST - 10 MONTH"   
## [76] "COACHING SPECIALIST - 12 MONTH"   
## [77] "COACHING SPECIALIST - ACADEMIC YEAR"   
## [78] "COLLECTIONS REPRESENTATIVE I"   
## [79] "COLLECTIONS REPRESENTATIVE II"   
## [80] "COMMUNITY SERVICE SPECIALIST -12 MONTH"   
## [81] "CONFIDENTIAL ADMINISTRATIVE SUPPORT -12 MONTH"   
## [82] "CONFIDENTIAL OFFICE SUPPORT -11/12"   
## [83] "CONFIDENTIAL OFFICE SUPPORT -12 MONTH"   
## [84] "CONFIDENTIAL TECHNICAL SUPPORT -12 MONTH"   
## [85] "COOK I"   
## [86] "COOK II"   
## [87] "COOK II LEAD"   
## [88] "CORE ELP INSTRUCTOR"   
## [89] "CORPORAL"   
## [90] "CREDENTIAL ANALYST I"   
## [91] "CREDENTIAL ANALYST II"   
## [92] "CREDENTIAL ANALYST TRAINEE"   
## [93] "CROP TECHNICIAN I"   
## [94] "CROP TECHNICIAN II"   
## [95] "CUSTODIAN"   
## [96] "DATA CONTROL TECHNICIAN"   
## [97] "DATA ENTRY OPERATOR"   
## [98] "DEPARTMENT CHAIR - 12 MONTH"   
## [99] "DEPARTMENT CHAIR - ACADEMIC YEAR"   
## [100] "DESKTOP PUBLISHING/GRAPHIC SPECIALIST -10/12"   
## [101] "DESKTOP PUBLISHING/GRAPHIC SPECIALIST -12 MONTH"   
## [102] "DIVING SAFETY OFFICER"   
## [103] "DRAFTING AID"   
## [104] "DRAFTING TECHNICIAN I"   
## [105] "DRAFTING TECHNICIAN II"   
## [106] "EARLY CHILDHOOD ASSOCIATE TEACHER"   
## [107] "EARLY CHILDHOOD MASTER TEACHER"   
## [108] "EARLY CHILDHOOD TEACHER"   
## [109] "ELECTRICIAN"   
## [110] "ELECTRICIAN APPRENTICE, CASUAL EMPLOYMENT"   
## [111] "ENGLISH LANGUAGE PROGRAM SUBSTITUTE INSTRUCTOR"   
## [112] "EQUIPMENT MAINTENANCE ASSISTANT"   
## [113] "EQUIPMENT SYSTEMS SPECIALIST -11/12"   
## [114] "EQUIPMENT SYSTEMS SPECIALIST -12"   
## [115] "EQUIPMENT TECHNICIAN I, ELECTRO-MECHANICAL"   
## [116] "EQUIPMENT TECHNICIAN I, ELECTRONIC"   
## [117] "EQUIPMENT TECHNICIAN I, MECHANICAL"   
## [118] "EQUIPMENT TECHNICIAN I, SPECIALIZED EQUIPMENT"   
## [119] "EQUIPMENT TECHNICIAN II, ELECTRO-MECHANICAL"   
## [120] "EQUIPMENT TECHNICIAN II, ELECTRONIC"   
## [121] "EQUIPMENT TECHNICIAN II, MECHANICAL"   
## [122] "EQUIPMENT TECHNICIAN II, SPECIALIZED EQUIPMENT"   
## [123] "EQUIPMENT TECHNICIAN III, ELECTRO-MECHANICAL"   
## [124] "EQUIPMENT TECHNICIAN III, ELECTRONIC"   
## [125] "EQUIPMENT TECHNICIAN III, MECHANICAL"   
## [126] "EQUIPMENT TECHNICIAN III, SPECIALIZED EQUIPMENT"   
## [127] "EVALUATOR I"   
## [128] "EVALUATOR II"   
## [129] "EVALUATOR TRAINEE"   
## [130] "EXECUTIVE VICE CHANCELLOR AND CHIEF ACADEMIC OFFICER"   
## [131] "EXECUTIVE VICE CHANCELLOR AND CHIEF FINANCIAL OFFICER"   
## [132] "EXECUTIVE VICE CHANCELLOR AND GENERAL COUNSEL"   
## [133] "EXECUTIVE VICE CHANCELLOR FOR ACADEMIC AND STUDENT AFFAIRS"   
## [134] "EXTENDED EDUCATION SPECIALIST I"   
## [135] "EXTENDED EDUCATION SPECIALIST II"   
## [136] "FACILITIES CONTROL SPECIALIST"   
## [137] "FACILITIES MAINTENANCE MECHANIC"   
## [138] "FACILITIES PROJECT SUPERVISOR"   
## [139] "FACILITIES WORKER I"   
## [140] "FACILITIES WORKER II"   
## [141] "FACULTY UNIT 403B DEDUCTION MONTHLY"   
## [142] "FARM LABORER"   
## [143] "FARM MAINTENANCE MECHANIC"   
## [144] "FEDERAL PROGRAMS COORDINATOR"   
## [145] "FOOD SERVICE WORKER I"   
## [146] "FOOD SERVICE WORKER I LEAD"   
## [147] "FOOD SERVICE WORKER II"   
## [148] "FOOD SERVICE WORKER II LEAD"   
## [149] "FT FACULTY UNIT - ADDITIONAL EMPLOYMENT"   
## [150] "GARDENER"   
## [151] "GARDENING SPECIALIST"   
## [152] "GLASSBLOWER"   
## [153] "GRANT-RELATED/SPECIALLY FUNDED INSTRUCTIONAL FACULTY - 12MO"   
## [154] "GRANT-RELATED/SPECIALLY FUNDED INSTRUCTIONAL FACULTY - AY"   
## [155] "GRAPHIC DESIGNER -10/12"   
## [156] "GRAPHIC DESIGNER -12 MONTH"   
## [157] "GROUNDSWORKER"   
## [158] "HEAD ATHLETIC TRAINER - 12 MONTH"   
## [159] "HEAD COACH - 10 MONTH"   
## [160] "HEAD COACH - 12 MONTH"   
## [161] "HEAD COACH - ACADEMIC YEAR"   
## [162] "HEAD RESIDENT I"   
## [163] "HEAD RESIDENT II"   
## [164] "HEALTH EDUCATION ASSISTANT"   
## [165] "HEALTH EDUCATOR"   
## [166] "HEALTH INFORMATION TECHNICIAN"   
## [167] "HEALTH SERVICES ASSISTANT"   
## [168] "HEAVY CONSTRUCTION EQUIPMENT OPERATOR"   
## [169] "HEAVY EQUIPMENT OPERATOR/BUS DRIVER"   
## [170] "HELPER/AID"   
## [171] "HOURLY INTRPRTR/REALTIME CAPTIONER/COMPUTER AIDED TRANSCRIBE"  
## [172] "INFORMATION TECHNOLOGY CONSULTANT -10/12"   
## [173] "INFORMATION TECHNOLOGY CONSULTANT -11/12"   
## [174] "INFORMATION TECHNOLOGY CONSULTANT -12"   
## [175] "INSTRUCTIONAL FACULTY - 12 MONTH"   
## [176] "INSTRUCTIONAL FACULTY - ACADEMIC YEAR"   
## [177] "INSTRUCTIONAL FACULTY - ACADEMIC YEAR \*"   
## [178] "INSTRUCTIONAL FACULTY, CHAIRMAN, ACADEMIC SENATE"   
## [179] "INSTRUCTIONAL FACULTY, EXTENSION -FOR CREDIT"   
## [180] "INSTRUCTIONAL FACULTY, EXTENSION NON-CREDIT"   
## [181] "INSTRUCTIONAL FACULTY, EXTRA QUARTER ASSIGNMENT, QSYRO"   
## [182] "INSTRUCTIONAL FACULTY, SPECIAL PROGRAMS -FOR CREDIT"   
## [183] "INSTRUCTIONAL FACULTY, SPECIAL PROGRAMS FOR CREDIT - ACA"   
## [184] "INSTRUCTIONAL FACULTY, SUMMER SESSION - EXTENSION"   
## [185] "INSTRUCTIONAL FACULTY, SUMMER SESSION - STATE SUPPORT"   
## [186] "INSTRUCTIONAL FACULTY, SUMMER SESSION - STATE SUPPORT - ACA"   
## [187] "INSTRUCTIONAL FACULTY, SUMMER SESSION, EXTENSION - ACA"   
## [188] "INSTRUCTIONAL SUPPORT ASSISTANT I"   
## [189] "INSTRUCTIONAL SUPPORT ASSISTANT II"   
## [190] "INSTRUCTIONAL SUPPORT ASSISTANT III"   
## [191] "INSTRUCTIONAL SUPPORT TECHNICIAN I"   
## [192] "INSTRUCTIONAL SUPPORT TECHNICIAN II"   
## [193] "INSTRUCTIONAL SUPPORT TECHNICIAN III"   
## [194] "INTERPRETER I"   
## [195] "INTERPRETER II"   
## [196] "INTERPRETER II - 8/12"   
## [197] "INVENTORY CLERK"   
## [198] "IRRIGATION SPECIALIST"   
## [199] "LABORATORY ASSISTANT I"   
## [200] "LABORATORY ASSISTANT II"   
## [201] "LABORER"   
## [202] "LEAD AUTOMOTIVE/EQUIPMENT MECHANIC"   
## [203] "LEAD BUILDING SERVICE ENGINEER"   
## [204] "LEAD CARPENTER"   
## [205] "LEAD CUSTODIAN"   
## [206] "LEAD ELECTRICIAN"   
## [207] "LEAD GROUNDSWORKER"   
## [208] "LEAD INTERPRETER"   
## [209] "LEAD INTERPRETER - 8/12"   
## [210] "LEAD LIBRARY ASSISTANT III"   
## [211] "LEAD LIBRARY ASSISTANT IV"   
## [212] "LEAD LOCKSMITH"   
## [213] "LEAD PAINTER"   
## [214] "LEAD PLUMBER"   
## [215] "LEAD REALTIME CAPTIONER"   
## [216] "LECTURER - 12 MONTH"   
## [217] "LECTURER - ACADEMIC YEAR"   
## [218] "LECTURER - ACADEMIC YEAR, CAL STATE TEACH"   
## [219] "LEGAL SECRETARY"   
## [220] "LEGISLATIVE/EXECUTIVE FELLOW"   
## [221] "LIBRARIAN - 10 MONTH"   
## [222] "LIBRARIAN - 12 MONTH"   
## [223] "LIBRARY SERVICES SPECIALIST I"   
## [224] "LIBRARY SERVICES SPECIALIST II"   
## [225] "LIBRARY SERVICES SPECIALIST III"   
## [226] "LIBRARY SERVICES SPECIALIST IV"   
## [227] "LIBRARY SERVICES SPECIALIST TRAINEE"   
## [228] "LICENSED VOCATIONAL NURSE I"   
## [229] "LICENSED VOCATIONAL NURSE II"   
## [230] "LIGHT AUTOMOTIVE EQUIPMENT OPERATOR"   
## [231] "LIVESTOCK TECHNICIAN I"   
## [232] "LIVESTOCK TECHNICIAN II"   
## [233] "LOCKSMITH"   
## [234] "MAIL CLERK"   
## [235] "MAIL SERVICES SUPERVISOR I"   
## [236] "MANAGEMENT INTERN"   
## [237] "MARITIME VOCATIONAL INSTRUCTOR -CRUISE -AY"   
## [238] "MARITIME VOCATIONAL INSTRUCTOR IV -CRUISE-AY"   
## [239] "MARITIME VOCATIONAL LECTURER -12 MONTH"   
## [240] "MARITIME VOCATIONAL LECTURER -CRUISE -AY"   
## [241] "MARITIME VOCATIONAL LECTURER -NONCRUISE -AY"   
## [242] "MASON"   
## [243] "MECHANICS HELPER"   
## [244] "MEDIA PRODUCTION SPECIALIST -10/12"   
## [245] "MEDIA PRODUCTION SPECIALIST -12 MONTH"   
## [246] "MEDICAL ASSISTANT"   
## [247] "MEDICAL SECRETARY"   
## [248] "MEDICAL TRANSCRIBER"   
## [249] "METAL WORKER I"   
## [250] "METAL WORKER II"   
## [251] "MICROGRAPHICS TECHNICIAN"   
## [252] "MUSIC STUDIO INSTRUCTIONAL FACULTY"   
## [253] "NETWORK ANALYST -12"   
## [254] "NOTETAKER"   
## [255] "NURSE PRACTITIONER"   
## [256] "NURSE PRACTITIONER - 10 MONTH"   
## [257] "NURSERY TECHNICIAN II"   
## [258] "OPERATING ENGINEER"   
## [259] "OPERATING SYSTEMS ANALYST -12"   
## [260] "OPERATIONS SPECIALIST -12"   
## [261] "PAINTER"   
## [262] "PARALEGAL"   
## [263] "PARKING OFFICER -10/12"   
## [264] "PARKING OFFICER -11/12"   
## [265] "PARKING OFFICER -12 MONTH"   
## [266] "PAYROLL TECHNICIAN I"   
## [267] "PAYROLL TECHNICIAN II"   
## [268] "PAYROLL TECHNICIAN III"   
## [269] "PAYROLL TECHNICIAN TRAINEE"   
## [270] "PER DIEM NON-EXEMPT - HEALTHCARE"   
## [271] "PERFORMING ARTS TECHNICIAN -10/12"   
## [272] "PERFORMING ARTS TECHNICIAN -11/12"   
## [273] "PERFORMING ARTS TECHNICIAN -12 MONTH"   
## [274] "PEST CONTROL AND SPRAY SPECIALIST"   
## [275] "PHARMACIST I"   
## [276] "PHARMACIST I - 10 MONTH"   
## [277] "PHARMACIST II"   
## [278] "PHARMACY TECHNICIAN"   
## [279] "PHLEBOTOMIST/CLINICAL LABORATORY ASSISTANT"   
## [280] "PHYSICAL THERAPIST II"   
## [281] "PHYSICIAN"   
## [282] "PHYSICIAN ASSISTANT"   
## [283] "PIANO TECHNICIAN I"   
## [284] "PIANO TECHNICIAN II"   
## [285] "PLANNER/ESTIMATOR/SCHEDULER"   
## [286] "PLUMBER"   
## [287] "POLICE DISPATCHER -12 MONTH"   
## [288] "POLICE OFFICER"   
## [289] "POLICE OFFICER CADET-NONREPRESENTED"   
## [290] "POLICE OFFICER INTERMITTENT-NONREPRESENTED"   
## [291] "POST-DOCTORAL COUNSELOR INTERN/FELLOW"   
## [292] "POST-MASTERS COUNSELOR INTERN"   
## [293] "POULTRY TECHNICIAN"   
## [294] "POWER PLANT OPERATOR"   
## [295] "PRE-DOCTORAL COUNSELOR INTERN"   
## [296] "PRESIDENT"   
## [297] "PRESIDENTIAL AIDE"   
## [298] "PROPERTY CLERK I"   
## [299] "PROPERTY CLERK II"   
## [300] "PUBLIC AFFAIRS/COMMUNICATION SPECIALIST -10/12"   
## [301] "PUBLIC AFFAIRS/COMMUNICATION SPECIALIST -11/12"   
## [302] "PUBLIC AFFAIRS/COMMUNICATION SPECIALIST -12 MONTH"   
## [303] "RADIATION SAFETY OFFICER"   
## [304] "RADIOLOGIC TECHNOLOGIST I"   
## [305] "RADIOLOGIC TECHNOLOGIST II"   
## [306] "READER"   
## [307] "REALTIME CAPTIONER"   
## [308] "REALTIME CAPTIONER - 8/12"   
## [309] "REGISTERED DIETITIAN"   
## [310] "REGISTERED NURSE I"   
## [311] "REGISTERED NURSE II"   
## [312] "REGISTERED NURSE II - 10 MONTH"   
## [313] "REGISTERED NURSE III"   
## [314] "REPROGRAPHICS SPECIALIST I"   
## [315] "REPROGRAPHICS SPECIALIST II"   
## [316] "REPROGRAPHICS SPECIALIST III"   
## [317] "REPROGRAPHICS SPECIALIST IV"   
## [318] "RESEARCH FELLOW"   
## [319] "RESEARCH TECHNICIAN I"   
## [320] "RESEARCH TECHNICIAN II"   
## [321] "RESEARCH TECHNICIAN III"   
## [322] "RESIDENT DIRECTOR, INTERNATIONAL PROGRAMS - 12 MONTH"   
## [323] "SENIOR BUDGET ANALYST"   
## [324] "SENIOR DATA CONTROL TECHNICIAN"   
## [325] "SENIOR PLANNER/ESTIMATOR/SCHEDULER"   
## [326] "SERGEANT"   
## [327] "SHIPPING AND RECEIVING ASSISTANT I"   
## [328] "SPACE AND FACILITIES UTILIZATION SPECIALIST"   
## [329] "SPECIAL CONSULTANT"   
## [330] "SPECIAL CONSULTANT - ACA"   
## [331] "SPEECH PATHOLOGIST"   
## [332] "STOCK CLERK"   
## [333] "STOREKEEPER I"   
## [334] "STUDENT PERSONNEL TECHNICIAN, FINANCIAL AIDS"   
## [335] "STUDENT SERVICES PROFESSIONAL I"   
## [336] "STUDENT SERVICES PROFESSIONAL I - 10 MONTH"   
## [337] "STUDENT SERVICES PROFESSIONAL II"   
## [338] "STUDENT SERVICES PROFESSIONAL II - 10 MONTH"   
## [339] "STUDENT SERVICES PROFESSIONAL II - ACADEMIC YEAR"   
## [340] "STUDENT SERVICES PROFESSIONAL III"   
## [341] "STUDENT SERVICES PROFESSIONAL III - 10 MONTH"   
## [342] "STUDENT SERVICES PROFESSIONAL III - ACADEMIC YEAR"   
## [343] "STUDENT SERVICES PROFESSIONAL IV"   
## [344] "STUDENT SERVICES PROFESSIONAL IV - 10 MONTH"   
## [345] "STUDENT SERVICES PROFESSIONAL IV - ACADEMIC YEAR"   
## [346] "STUDENT SERVICES PROFESSIONAL, ACADEMIC-RELATED I - 12 MONTH"  
## [347] "STUDENT SERVICES PROFESSIONAL, ACADEMIC-RELATED I-AY"   
## [348] "STUDENT SERVICES PROFESSIONAL, ACADEMIC-RELATED II - 12 MONT"  
## [349] "STUDENT SERVICES PROFESSIONAL, ACADEMIC-RELATED II-AY"   
## [350] "STUDENT SERVICES PROFESSIONAL, ACADEMIC-RELATED III-12 MONTH"  
## [351] "STUDENT SERVICES PROFESSIONAL, ACADEMIC-RELATED III-AY"   
## [352] "SUBSTITUTE INSTRUCTIONAL FACULTY"   
## [353] "SUPERVISING AUTOMOTIVE/EQUIPMENT MECHANIC"   
## [354] "SUPERVISING BUILDING SERVICE ENGINEER"   
## [355] "SUPERVISING CARPENTER"   
## [356] "SUPERVISING ELECTRICIAN"   
## [357] "SUPERVISING LIBRARIAN - 12 MONTH"   
## [358] "SUPERVISING LOCKSMITH"   
## [359] "SUPERVISING METAL WORKER"   
## [360] "SUPERVISING MICROGRAPHICS TECHNICIAN I"   
## [361] "SUPERVISING PAINTER"   
## [362] "SUPERVISING PLUMBER"   
## [363] "SUPERVISING TELEPHONE OPERATOR"   
## [364] "TECHNICIAN TRAINEE"   
## [365] "TERM ELP INSTRUCTOR"   
## [366] "TREE TRIMMER I"   
## [367] "TREE TRIMMER II"   
## [368] "TRUSTEE - THE CALIFORNIA STATE UNIVERSITY"   
## [369] "VETERINARIAN I"   
## [370] "VETERINARIAN II"   
## [371] "VICE CHANCELLOR AND CHIEF AUDIT OFFICER"   
## [372] "VICE CHANCELLOR, HUMAN RESOURCES"   
## [373] "VICE CHANCELLOR, UNIVERSITY RELATIONS AND ADVANCEMENT"   
## [374] "VISITING FACULTY - 12 MONTH"   
## [375] "VISITING FACULTY - ACADEMIC YEAR"   
## [376] "VISUAL RESOURCE SPECIALIST -11/12"   
## [377] "VISUAL RESOURCE SPECIALIST -12 MONTH"   
## [378] "VOCATIONAL INSTRUCTOR - 12 MONTH"   
## [379] "WAREHOUSE WORKER"   
## [380] "WINDOW CLEANER"

admin1<-df$Base.Pay[df$Job.Title=="ADMINISTRATOR I"]  
admin2<-df$Base.Pay[df$Job.Title=="ADMINISTRATOR II"]  
admin3<-df$Base.Pay[df$Job.Title=="ADMINISTRATOR III"]  
admin4<-df$Base.Pay[df$Job.Title=="ADMINISTRATOR IV"]

## Generate a Boxplot

Next, we create a boxplot showing the distribution of salaries for the different classes of administrators. The classes are ordered from lowest to highest paid and given abbreviated names along the x-axis, and the boxes are colored from light pink to dark pink in relation to salary. The x-axis is labeled "Job Title" and the y-axis is labeled "Base Pay ($)". In order for the y-axis scale to be in whole numbers rather than scientific notation (which R sometimes defaults to), the "options" function is used prior to generating the boxplot.

options(scipen = 5)  
boxplot(admin1,admin2,admin3,admin4,names=c("Admin I","Admin II"  
 ,"Admin III","Admin IV"),cex.axis=0.9,ylab="Base Pay ($)",  
 xlab="Job Title",col=c("mistyrose","lightpink","hotpink",  
 "violetred"))



## Calculate and Print Mean Salaries

Lastly, we calculate the mean salary for each class and print them into a table. We create a vector of the four means and call it "means". It's important to note that before we can use the "kable" function to create the table, we need to run the line library(knitr). Then we use the "kable" function with "means" as the data, column names as "Mean Salary", and row names included corresponding to job class. We can even include a table caption.

means<-c(mean(admin1),mean(admin2),mean(admin3),mean(admin4))  
library(knitr)  
kable(means,col.names = "Mean Salary",row.names = TRUE,caption = "Table of mean salaries for the four classes of administrators. Rows are numbered according to class.")

Table of mean salaries for the four classes of administrators. Rows are numbered according to class.

|  |  |
| --- | --- |
|  | Mean Salary |
| 1 | 58657.96 |
| 2 | 82078.08 |
| 3 | 114224.31 |
| 4 | 167503.72 |