Tutorial_PS1

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Question 5

```
## 'data.frame':    191387 obs. of  136 variables:
## $ year                      : int  2015 2015 2015 2015 2015 2015 2015 2015 2015 2015 ...
## $ state                     : chr  "va" "tn" "tn" "va" ...
## $ zip5                      : int  24361 37645 37656 24245 24251 37663 24319 37731 37617 37658 ...
## $ cz                        : int  100 100 100 100 100 100 100 100 100 100 ...
## $ cz_name                   : chr  "Johnson City" "Johnson City" "Johnson City" "Johnson City" ...
## $ bin                       : chr  "$100,000 under $200,000" "All" "$25,000 under $50,000" "$75,000
## $ returns                   : chr  "140" "2,410" "380" "40" ...
## $ returns_single            : chr  "**" "880" "160" "**" ...
## $ returns_joint             : chr  "130" "1,220" "170" "30" ...
## $ returns_heads             : chr  "**" "250" "40" "**" ...
## $ returns_preparer          : chr  "100" "1,120" "200" "**" ...
## $ exemptions                : chr  "390" "4,890" "760" "110" ...
## $ dependents                : chr  "110" "1,420" "220" "40" ...
## $ vpr_number                : chr  "0" "20" "0" "**" ...
## $ vita_number               : chr  "0" "0" "0" "**" ...
## $ tce_number                : chr  "0" "20" "0" "0" ...
## $ vitaeitc_number           : chr  "0" "0" "0" "0" ...
## $ refundloan_number         : chr  "0" "0" "0" "0" ...
## $ refundcheck_number        : chr  "**" "380" "70" "**" ...
## $ elderly_number            : chr  "40" "610" "100" "**" ...
## $ agi                       : chr  "20569" "115,633" "13986" "3991" ...
## $ totinc_number             : chr  "140" "2,410" "380" "40" ...
## $ totincome_amount          : chr  "20747" "116,525" "14115" "3991" ...
## $ wages_number              : chr  "130" "2,060" "310" "40" ...
## $ wages_amount              : chr  "16097" "92,644" "10260" "3455" ...
## $ interest_number           : chr  "90" "1,120" "160" "20" ...
## $ interest_amount           : chr  "26" "502" "124" "3" ...
## $ dividends_ordinary_number : chr  "50" "190" "30" "0" ...
## $ dividends_ordinary_amount : chr  "154" "209" "42" "0" ...
## $ dividends_qualified_number: chr  "40" "170" "30" "0" ...
## $ dividends_qualified_amount: chr  "86" "130" "31" "0" ...
## $ state_refunds_number      : chr  "60" "40" "0" "0" ...
## $ state_refunds_amount      : chr  "57" "24" "0" "0" ...
## $ business_number           : chr  "30" "270" "50" "**" ...
## $ business_amount           : chr  "144" "1,998" "470" "**" ...
## $ capgains_number           : chr  "30" "150" "30" "0" ...
## $ capgains_amount           : chr  "179" "678" "6" "0" ...
## $ ira_distributions_number  : chr  "20" "270" "60" "0" ...
## $ ira_distributions_amount  : chr  "412" "4,015" "853" "0" ...
## $ pensions_number           : chr  "40" "560" "100" "**" ...
## $ pensions_amount           : chr  "1539" "9,242" "1412" "**" ...
## $ farm_number               : chr  "30" "30" "30" "**" ...
## $ ui_number                 : chr  "**" "70" "40" "0" ...
```

```
## $ ui_amount                    : chr  "**" "274" "107" "0" ...
## $ socsec_number                : chr  "20" "420" "110" "**" ...
## $ socsec_amount                : chr  "529" "4,513" "777" "**" ...
## $ partnership_number           : chr  "**" "40" "30" "0" ...
## $ partnership_amount           : chr  "**" "509" "598" "0" ...
## $ adjustments_number           : chr  "60" "480" "80" "**" ...
## $ adjustments_amount           : chr  "178" "892" "129" "**" ...
## $ educatorexp_number           : chr  "**" "40" "20" "0" ...
## $ educatorexp_amount           : chr  "**" "10" "5" "0" ...
## $ selfemp_number               : chr  "0" "0" "0" "0" ...
## $ selfemp_amount               : chr  "0" "0" "0" "0" ...
## $ selfhealthins_number         : chr  "**" "20" "0" "0" ...
## $ selfhealthins_amount         : chr  "**" "101" "0" "0" ...
## $ irapayment_number            : chr  "**" "30" "0" "0" ...
## $ irapayment_amount            : chr  "**" "104" "0" "0" ...
## $ studentloan_number           : chr  "20" "190" "60" "0" ...
## $ studentloan_amount           : chr  "26" "161" "53" "0" ...
## $ tuition_number               : chr  "0" "0" "0" "0" ...
## $ tuition_amount               : chr  "0" "0" "0" "0" ...
## $ domesticprod_number          : chr  "0" "0" "0" "0" ...
## $ domesticprod_amount          : chr  "0" "0" "0" "0" ...
## $ deductions_number            : chr  "90" "310" "60" "**" ...
## $ deductions_amount            : chr  "2215" "5,321" "1036" "**" ...
## $ deductions_agiamount         : chr  "14154" "25,444" "1904" "**" ...
## $ stateinctax_number           : chr  "90" "50" "0" "**" ...
## $ stateinctax_amount           : chr  "729" "147" "0" "**" ...
## $ salestax_number              : chr  "0" "210" "50" "0" ...
## $ salestax_amount              : chr  "0" "441" "58" "0" ...
## $ proptax_number               : chr  "90" "290" "50" "**" ...
## $ proptax_amount               : chr  "123" "482" "49" "**" ...
## $ taxpaid_number               : chr  "90" "300" "60" "**" ...
## $ taxpaid_amount               : chr  "907" "1,102" "108" "**" ...
## $ mortint_number               : chr  "70" "260" "40" "0" ...
## $ mortint_amount               : chr  "517" "1,555" "250" "0" ...
## $ contrib_number               : chr  "80" "250" "40" "0" ...
## $ contrib_amount               : chr  "449" "1,210" "200" "0" ...
## $ ti_number                    : chr  "140" "1,900" "370" "40" ...
## $ ti_amount                    : chr  "16182" "73,389" "6925" "2961" ...
## $ inctax_beforecredits_number: chr  "140" "1,910" "370" "40" ...
## $ inctax_beforecredits_amount: chr  "2924" "10,856" "844" "475" ...
## $ altmintax_number             : chr  "0" "0" "0" "0" ...
## $ altmintax_amount             : chr  "0" "0" "0" "0" ...
## $ excess_advpremium_number     : chr  "**" "40" "**" "0" ...
## $ excess_advpremium_amount     : chr  "**" "26" "**" "0" ...
## $ credits_number               : chr  "50" "770" "140" "**" ...
## $ credits_amount               : chr  "66" "904" "104" "**" ...
## $ foreign_number               : chr  "0" "30" "**" "0" ...
## $ foreign_amount               : chr  "0" "1" "**" "0" ...
## $ childcare_number             : chr  "**" "70" "**" "0" ...
## $ childcare_amount             : chr  "**" "34" "**" "0" ...
## $ educredit_nonref_number      : chr  "**" "150" "50" "0" ...
## $ educredit_nonref_amount      : chr  "**" "176" "45" "0" ...
## $ retcontrib_number            : chr  "0" "180" "60" "0" ...
## $ retcontrib_amount            : chr  "0" "35" "13" "0" ...
```

```
## $ childcredit_number      : chr  "30" "490" "90" "**" ...
## $ childcredit_amount      : chr  "39" "633" "74" "**" ...
##  [list output truncated]

## Observations: 131,997
## Variables: 14
## $ year                     <int> 2015, 2015, 2015, 2015, 2015, 2015,...
## $ state                    <chr> "va", "tn", "tn", "va", "va", "tn",...
## $ zip5                     <int> 24361, 37645, 37656, 24245, 24251, ...
## $ cz                       <int> 100, 100, 100, 100, 100, 100, 100, ...
## $ cz_name                  <chr> "Johnson City", "Johnson City", "Jo...
## $ bin                      <chr> "$100,000 under $200,000", "All", "...
## $ returns                  <dbl> 140, 2410, 380, 40, 490, 1500, 1200...
## $ agi                      <dbl> 20569, 115633, 13986, 3991, 30199, ...
## $ wages_amount             <dbl> 16097, 92644, 10260, 3455, 23966, 3...
## $ interest_amount          <dbl> 26, 502, 124, 3, 173, 418, 92, 2312...
## $ dividends_ordinary_amount <dbl> 154, 209, 42, 0, 109, 470, 51, 2750...
## $ dividends_qualified_amount <dbl> 86, 130, 31, 0, 61, 327, 38, 2034, ...
## $ capgains_amount          <dbl> 179, 678, 6, 0, 151, 367, 46, 6489,...
## $ contrib_amount           <dbl> 449, 1210, 200, 0, 314, 623, 61, 63...
```

Question 6

```
##  agi_per_return
##  Min.   :   8.292
##  1st Qu.:  37.094
##  Median :  71.237
##  Mean   : 120.835
##  3rd Qu.: 134.681
##  Max.   :1951.379
##  NA's   :1
```

Question 7

Question 8

Question 9

Question 10

Because some zip codes may be very rural and have no foreclosures take place, similar to the zip codes with the stars in the earlier data. It's likely due to them just not being big enough to have data on.

Question 11

I use Massachusetts because there's not enough Zillow data in my hometown.