

```
1 #! /bin/bash
2
3 #This is the real string
4 #employee_string="Rudy T. Navarro,586 New St.,Anchorage,Jennie K.
... Carlson,468 West Old Drive,Charlotte,Kristine Z. Blackwell,363 Yellow Duck
... Way,Fresno,Ivan N. Marquez,876 Rocky Second Street,Yonkers,Clarence H.
... Baird,915 North Nobel St.,San Antonio,Tia J. Li,780 Rocky Cherrywood
... Street,Indianapolis,Tammy O. Holder,882 West Crabapple Avenue,Toledo,Nicole
... K. Perkins,58 Old St.,El Paso,Spencer M. Cross,48 North Narwhal
... St.,Atlanta,Robin T. Fernandez,51 West Rocky Lakeridge St.,Grand
... Rapids,Cindy J. Oconnor,925 Green New Parkway,Atlanta,Ian K. Sosa,117 Oak
... Way,Toledo,Betsy O. Rowland,60 Nobel Road,Omaha,Jeremiah E. Sexton,247 North
... First Street,Las Vegas,Yvette U. Gomez,159 Nobel Drive,Grand Rapids,Marisol
... F. Henderson,988 Rocky Oak Avenue,Mobile,Deborah C. Mayer,86 South Yellow
... New Street,Columbus,Wendell H. Coffey,85 South Rocky Crabapple
... Blvd.,Atlanta,Robin W. Frederick,310 Oak St.,Jackson,Chrystal I. Bowers,726
... Second Road,San Antonio,Norma L. Sexton,86 Cherrywood Drive,Cleveland,Lea R.
... Kirby,87 New Parkway,Seattle,Jessica M. Cline,31 Green Fabien
... Road,Anchorage,Maggie P. Cortez,348 East Oak Road,Jackson,Levi Z. Riddle,979
... Rocky Fabien Road,Tacoma,Melanie I. Trevino,304 Hague Avenue,Virginia
... Beach,Loren O. Pineda,97 Milton St.,Philadelphia,Jesse H. Adkins,15
... Cherrywood Way,Bakersfield,Garry A. Allen,309 Green Elm
... Street,Hialeah,Victoria R. Olson,397 South Hague Avenue,Seattle,Roland E.
... Buchanan,828 Green New Parkway,Fort Worth,Austin C. Roman,423 New
... Boulevard,Columbus,Debra B. Mullins,164 South Rocky Second
... Drive,Atlanta,Perry G. Gonzales,443 New Way,Greensboro,Tracey Z. Collier,87
... Rocky Narwhal Avenue,Dallas,Janice X. Waller,122 Nobel
... St.,Louisville,Lillian N. Sullivan,20 Green Narwhal Avenue,Tacoma,Glenda E.
... Herrera,757 Cowley Blvd.,Tampa,Courtney B. Leblanc,316 North Cherrywood
... Road,Kansas,Connie C. Spencer,52 Crabapple Way,Los Angeles,Ricky P.
... Nichols,117 Duck Avenue,Miami,Lamar G. Aguilar,246 Rocky Lakeridge
... Boulevard,Spokane,Elisabeth S. Moran,608 Second Avenue,Albuquerque,Ethan C.
... Juarez,53 Green Fabien Avenue,Hialeah,Marcus X. Underwood,20 North Duck
... Road,Colorado,Gina C. Davies,203 First Road,Fremont,Allan D. Scott,95 South
... Oak Parkway,Glendale,Cara S. Delgado,841 West First Way,Arlington,Patrick Q.
... Watts,403 South Rocky Lakeridge Boulevard,Buffalo,Roger F. Lawrence,344
... Rocky Fabien Freeway,Montgomery,Bryan M. Bruce,206 South Oak Boulevard,New
... York,Samantha E. Hansen,511 North Lakeridge Freeway,Portland,Tanya D.
... Riley,593 Green Crabapple Freeway,San Antonio,Erika F. Ramsey,70 West Green
... Duck Parkway,Sacramento,Colby F. Page,695 Duck Way,Mesa,Theodore G.
... Burton,290 First Street,Omaha,Lorie W. Finley,35 South Rocky Nobel
... Freeway,Virginia Beach,Traci V. Charles,69 Yellow Lakeridge
... Parkway,Memphis,Beth P. Hanna,91 East Rocky Cowley Street,Fort Worth,Tricia
... W. Payne,12 Yellow Oak Avenue,Mesa,Laurie N. Fields,729 Green Cowley
... Drive,Aurora,Tommy U. Hudson,196 Cherrywood Avenue,Stockton,Shawn P.
... Parrish,579 First Street,Jackson,Kent F. Harrington,46 Lakeridge Freeway,Des
... Moines,Garry G. McIntyre,79 Yellow First Avenue,Toledo,Janette D. Gordon,65
... East Rocky Old Drive,Baton Rouge,Christian T. Hanna,208 Oak Way,St.
... Petersburg,Kerri N. Hampton,791 Rocky Milton Way,Buffalo,Bradley L.
... Powell,607 Duck Street,Newark,Dion M. Rangel,544 Yellow Fabien Parkway,El
... Paso,Shauna Y. Tyler,30 Yellow Hague Boulevard,Washington,Shirley J.
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4... Kelly,917 Rocky Old Blvd.,Fort Worth,Preston L. Zuniga,337 East Cherrywood  
... Drive,Memphis,Oliver D. Hodges,608 Rocky First Road,San Diego,Marcella F.  
... Hays,54 Rocky Crabapple St.,Shreveport,Rick E. Herrera,109 Rocky Narwhal  
... Boulevard,San Jose,Loretta A. Parrish,36 West Nobel Street,St.  
... Petersburg,Scotty U. Crawford,773 Rocky Fabien Road,El Paso,Jeff J.  
... Sandoval,258 West Green Cowley St.,Fresno,Bryan M. French,86 Nobel  
... Boulevard,San Diego,Felicia Y. Rasmussen,214 South Green Hague  
... Boulevard,Fort Worth,Kate X. Valdez,454 Cowley Boulevard,Oakland,Tommy F.  
... Reese,48 Second Way,Nashville,Leon Y. Warren,884 Oak Parkway,Spokane,Raul J.  
... Jenkins,85 Yellow Narwhal Blvd.,Albuquerque,Darius T. Luna,876 First  
... Freeway,Tampa,Tonia X. Gilmore,146 Cherrywood Road,Washington,Katina R.  
... Brady,923 Rocky Elm Drive,Norfolk,Timothy R. Snyder,412 Old St.,Los  
... Angeles,Jesse P. Ochoa,33 Yellow Fabien Parkway,Des Moines,Ronnie O.  
... Cochran,508 East Yellow Hague Way,Hialeah,Shad P. Krueger,721 Old  
... Street,Omaha,Dean Y. Bruce,905 Narwhal Road,Denver,Bobbie C. Cochran,96  
... Yellow Cherrywood Way,Garland,Gustavo L. Cohen,88 Yellow Second  
... Way,Charlotte,Alberto A. Shepard,25 North Hague Blvd.,Riverside,Janelle E.  
... Larson,968 Yellow Old Boulevard,Dallas,Veronica F. Wagner,130 Hague  
... Blvd.,Tampa,Anita U. Padilla,82 Hague Blvd.,Mobile,Lorraine Z. Clements,573  
... Green Crabapple Way,Glendale,Tasha F. Pearson,97 Green Duck  
... Freeway,Spokane,Lawrence G. Cordova,972 Elm Boulevard,Dayton,Blanca J.  
... Oneal,122 Yellow Milton Way,Jacksonville,Brandie K. Smith,987 Fabien  
... Way,Tacoma,Dan G. Ortiz,236 East Rocky New Drive,Philadelphia,Marisa K.  
... Walters,896 Green Oak St.,Cincinnati,Jimmie D. Green,76 First  
... Avenue,Tampa,Kareem N. Ritter,754 West Fabien Boulevard,Yonkers,Tyrone R.  
... Castillo,450 Rocky Second St.,Sacramento,Lori W. Carroll,62 Rocky Oak  
... Freeway,Madison,Maggie M. French,24 Clarendon Freeway,Oklahoma,Bethany G.  
... Oliver,24 Rocky Milton Parkway,Chicago,Roberta Q. Santana,762 East Clarendon  
... Avenue,Louisville,Nicholas Q. Conley,997 Nobel Freeway,St. Petersburg,Anita  
... U. Mack,647 Yellow Milton Blvd.,Fresno,Larry B. Sampson,87 Green Narwhal  
... Avenue,Little Rock,Ian A. Klein,266 New Street,Columbus,Aisha H.  
... Contreras,46 Yellow Narwhal Drive,Denver,Kari D. Schaefer,895 Green Cowley  
... Way,Long Beach,Gabrielle K. Archer,44 North Nobel Freeway,Norfolk,Andrew T.  
... Bird,20 North Oak Freeway,Phoenix,Cara V. Atkinson,553 West Narwhal  
... Boulevard,Mobile,Susan M. Mcdaniel,530 Lakeridge Street,Fresno,Ralph O.  
... Hatfield,20 First Parkway,Pittsburgh,Cody E. Woodard,515 Oak  
... Boulevard,Memphis,Lewis P. Huynh,542 Narwhal Drive,Long Beach,Wendell R.  
... Carey,739 Nobel Parkway,Tucson,Dennis U. Morris,86 North Cherrywood  
... Freeway,Little Rock,William J. Dean,25 South Rocky Crabapple  
... Blvd.,Dayton,Anitra N. Carson,702 First St.,Sacramento,Anthony V. Bean,42  
... South Hague Avenue,Portland,Aimee Y. Cummings,90 First Parkway,Las  
... Vegas,Joan N. Cisneros,16 Green Hague Drive,Tampa,Josh Z. Murillo,535 Milton  
... Freeway,Garland,Vincent Z. Adkins,94 Yellow New Parkway,Fremont,Colby X.  
... Barron,44 East Rocky Lakeridge Drive,Albuquerque,Deborah I. Lynch,806 Nobel  
... Freeway,Los Angeles,Kyle A. Holden,280 Yellow Nobel Boulevard,Mesa,Rickey F.  
... Duncan,676 Rocky New Boulevard,Riverside,Marlon T. Brennan,28 West First  
... Blvd.,Los Angeles,Cari E. Fleming,31 East Second Street,Tacoma,Michele Y.  
... Gonzalez,73 Second Road,Buffalo,Adrienne X. Mora,52 East Hague Blvd.,St.  
... Petersburg,Derek R. Baird,47 Yellow Duck Road,Miami,Lakesha K. Rojas,47  
... Yellow Clarendon St.,Miami,Alana G. Bishop,862 East Hague Road,Miami,Cassie  
... I. Mejia,18 Green Nobel Blvd.,Des Moines,Nikki D. Petersen,13 New

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4... Parkway,Akron,Keisha T. Spears,78 Second Way,Cincinnati,Johnathan J.
... Suarez,659 Lakeridge Freeway,Lincoln"
5
6 #This is your trial string (short version)
7 employee_string="Rudy T. Navarro,586 New St.,Anchorage,Jennie K. Carlson,468
... West Old Drive,Charlotte,Kristine Z. Blackwell,363 Yellow Duck
... Way,Fresno,Ivan N. Marquez,876 Rocky Second Street,Yonkers,Clarence H.
... Baird,915 North Nobel St.,San Antonio,Tia J. Li,780 Rocky Cherrywood
... Street,Indianapolis,Tammy O. Holder,882 West Crabapple Avenue,Toledo,Nicole
... K. Perkins,58 Old St.,El Paso,Spencer M. Cross,48 North Narwhal
... St.,Atlanta,Robin T. Fernandez,51 West Rocky Lakeridge St.,Grand
... Rapids,Cindy J. Oconnor,925 Green New Parkway,Atlanta"
8
9 #I am providing you a short version of the employee_string for script
... building.
10 #Be sure to delete this string and uncomment the real string for your final
11 #testing and script submission. If you hand in your script with the
... truncated
12 #string active you will be docked points!
13
14 #Be aware that commenting/uncommenting these long strings can cause BASH to
... push
15 #the line down. This results in errors while running the script. If this
16 #happens, be sure to backspace the line back together. Your best course of
... action
17 #is to not touch either string, except to delete the short version then
... uncomment
18 #the real string when ready.
19
20 #check for the subdirectory mod08t
21 dircheck=~/.mod08t
22 if ! [[ -d $dircheck ]];then
23     mkdir ~/.mod08t
24 fi
25
26 #we don't need to check for employee.csv
27 #we will write the header with >, which is destructive
28
29 #clean up employee_string for array
30 employee_string=$(echo $employee_string | tr " " "_")
31 employee_string=$(echo $employee_string | tr ", " ",")
32
33 #create employee_array from employee_string
34 employee_array=$(echo $employee_string | cut -d " " -f 1-)
35
36 clear
37 echo "Making employee file.."
38
39 #make csv of employee data
40 echo "Name,Address,City" > ~/.mod08t/employee.csv #this is destructive on
... purpose

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41
42 #write the employee data out to employee.csv in the mod08t directory
43 array_len=${#employee_array[*]}
44 for (( i=0; i<$array_len; i=$((i + 3)) ))
45 do
46     #be sure to write out like this so no line length errors
47     line_out="${employee_array[$i]},\
48 ${employee_array[$((i+1))]},\
49 ${employee_array[$((i+2))]}"
50     echo -e $line_out >> ~/mod08t/employee.csv
51 done
52
53 #make city array from employee.csv
54 city_array=()
55 #do not put quotes around the path!
56 input=~/mod08t/employee.csv
57 while IFS= read -r line
58 do
59     city=$(echo $line | cut -d "," -f3)
60     if ! [[ $city == "City" ]];then
61         city_array+=($city)
62     fi
63 done < $input
64
65
66 echo -e "\nMaking array of cities\n"
67
68 #sort and unique the list of cities
69 city_array=($(
70     for i in ${city_array[*]};
71     do
72         echo $i
73     done | sort -u))
74
75 #add last names to city strings in array
76 echo "Adding last names, this will take awhile..."
77 while IFS= read -r line
78 do
79     full_name=$(echo $line | cut -d "," -f 1)
80     last_name=$(echo $full_name | cut -d "_" -f 3)
81     city=$(echo $line | cut -d "," -f3)
82     for i in ${!city_array[*]};
83     do
84         city_from_array=$(echo ${city_array[$i]} | cut -d "|" -f 1)
85         if [[ $city_from_array == $city ]];then
86             city_array[$i]+="|$last_name"
87         fi
88     done
89 done < $input
90
91 #print out the cities and last name in a clean fashion

```

```
92 clear
93 for i in ${city_array[*]}
94 do
95     temp_array=($(echo $i | tr "|" " " | cut -d " " -f 1-))
96     echo "${temp_array[0]}: ${temp_array[*]:1}" | tr "_" " "
97 done
98
99
100 #check for emp_data.tgz, delete if there
101 filecheck=~/.mod08t/emp_data.tgz
102 if [[ -f $filecheck ]];then
103     rm ~/.mod08t/emp_data.tgz
104 fi
105
106 #pack up employee_data.csv into the mod08t directory
107 cd ~/.mod08t #go there to only pack files, not directories
108 tar -cf emp_data.tgz -z employee.csv
109 #return home
110 cd ~
111
```