

# Lab 7

## Question 1



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1/1 + [share icon] [copy icon] Tilix: broberts@cis106: ~/Documents/Csv
1: broberts@cis106: ~/Documents/Csv
Count Chocula;G;C;110;1;1;180;0;12;13;65;25;2;1;1;22.396513
Corn Pops;K;C;110;1;0;90;1;13;12;20;25;2;1;1;35.782791
Corn Flakes;K;C;100;2;0;290;1;21;2;35;25;1;1;1;45.863324
Corn Chex;R;C;110;2;0;280;0;22;3;25;25;1;1;1;41.445019
Cocoa Puffs;G;C;110;1;1;180;0;12;13;55;25;2;1;1;22.736446
Clusters;G;C;110;3;2;140;2;13;7;105;25;3;1;0.5;40.400208
Cinnamon Toast Crunch;G;C;120;1;3;210;0;13;9;45;25;2;1;0.75;19.823573
Cheerios;G;C;110;6;2;290;2;17;1;105;25;1;1;1.25;50.764999
Cap'n'Crunch;Q;C;120;1;2;220;0;12;12;35;25;2;1;0.75;18.042851
Bran Flakes;P;C;90;3;0;210;5;13;5;190;25;3;1;0.67;53.313813
Bran Chex;R;C;90;2;1;200;4;15;6;125;25;1;1;0.67;49.120253
Basic 4;G;C;130;3;2;210;2;18;8;100;25;3;1.33;0.75;37.038562
Apple Jacks;K;C;110;2;0;125;1;11;14;30;25;2;1;1;33.174094
Apple Cinnamon Cheerios;G;C;110;2;2;180;1.5;10.5;10;70;25;1;1;0.75;29.509541
Almond Delight;R;C;110;2;2;200;1;14;8;-1;25;3;1;0.75;34.384843
All-Bran with Extra Fiber;K;C;50;4;0;140;14;8;0;330;25;3;1;0.5;93.704912
All-Bran;K;C;70;4;1;260;9;7;5;320;25;3;1;0.33;59.425505
100% Natural Bran;Q;C;120;3;5;15;2;8;8;135;0;3;1;1;33.983679
100% Bran;N;C;70;4;1;130;10;5;6;280;25;3;1;0.33;68.402973
String;Categorical;Categorical;Int;Int;Int;Int;Int;Float;Float;Float
name;mfr;type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;shelf;weight;cups;rating
broberts@cis106:~/Documents/Csv$
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1 / 1  +  [ ] [x]  Tilix: broberts@cis106: ~/Documents/Csv
1: broberts@cis106: ~/Documents/Csv
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Apple Jacks;K;C;110;2;0;125;1;11;14;30;25;2;1;1;33.174094
Apple Cinnamon Cheerios;G;C;110;2;2;180;1.5;10.5;10;70;25;1;1;0.75;29.509541
Almond Delight;R;C;110;2;2;200;1;14;8;-1;25;3;1;0.75;34.384843
All-Bran with Extra Fiber;K;C;50;4;0;140;14;8;0;330;25;3;1;0.5;93.704912
All-Bran;K;C;70;4;1;260;9;7;5;320;25;3;1;0.33;59.425505
100% Natural Bran;Q;C;120;3;5;15;2;8;8;135;0;3;1;1;33.983679
100% Bran;N;C;70;4;1;130;10;5;6;280;25;3;1;0.33;68.402973
String;Categorical;Categorical;Int;Int;Int;Int;Float;Float;Int;Int;Int;Int;Float;Float;Float
name;mfr;type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;shelf;weight;cups;rating
broberts@cis106:~/Documents/Csv$ cat -nEv cereal.csv
1  name;mfr;type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;shelf;weight;cups;rating^M$
2  String;Categorical;Categorical;Int;Int;Int;Int;Float;Float;Int;Int;Int;Int;Float;Float;Float^M$
3  100% Bran;N;C;70;4;1;130;10;5;6;280;25;3;1;0.33;68.402973^M$
4  100% Natural Bran;Q;C;120;3;5;15;2;8;8;135;0;3;1;1;33.983679^M$
5  All-Bran;K;C;70;4;1;260;9;7;5;320;25;3;1;0.33;59.425505^M$
6  All-Bran with Extra Fiber;K;C;50;4;0;140;14;8;0;330;25;3;1;0.5;93.704912^M$
7  Almond Delight;R;C;110;2;2;200;1;14;8;-1;25;3;1;0.75;34.384843^M$
8  Apple Cinnamon Cheerios;G;C;110;2;2;180;1.5;10.5;10;70;25;1;1;0.75;29.509541^M$
9  Apple Jacks;K;C;110;2;0;125;1;11;14;30;25;2;1;1;33.174094^M$
10 Basic 4;G;C;130;3;2;210;2;18;8;100;25;3;1.33;0.75;37.038562^M$
11 Bran Chex;R;C;90;2;1;200;4;15;6;125;25;1;1;0.67;49.120253^M$
12 Bran Flakes;R;C;90;2;1;200;4;15;6;125;25;1;1;0.67;49.120253^M$
75 Triples;G;C;110;2;1;250;0;21;3;60;25;3;1;0.75;39.106174^M$
76 Trix;G;C;110;1;1;140;0;13;12;25;25;2;1;1;27.753301^M$
77 Wheat Chex;R;C;100;3;1;230;3;17;3;115;25;1;1;0.67;49.787445^M$
78 Wheaties;G;C;100;3;1;200;3;17;3;110;25;1;1;1;51.592193^M$
79 Wheaties Honey Gold;G;C;110;2;1;200;1;16;8;60;25;1;1;0.75;36.187559^M$
broberts@cis106:~/Documents/Csv$ head -n 2 cereal.csv
name;mfr;type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;shelf;weight;cups;rating
String;Categorical;Categorical;Int;Int;Int;Int;Float;Float;Int;Int;Int;Int;Float;Float;Float
broberts@cis106:~/Documents/Csv$ tail -n 2 cereal.csv
Wheaties;G;C;100;3;1;200;3;17;3;110;25;1;1;1;51.592193
Wheaties Honey Gold;G;C;110;2;1;200;1;16;8;60;25;1;1;0.75;36.187559
broberts@cis106:~/Documents/Csv$

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## Question 2

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1/1  +  [ ]  [ ]  Tilix: broberts@cis106: ~/Documents/Csv
1: broberts@cis106: ~/Documents/Csv ~
broberts@cis106:~/Documents/Csv$ head -n 1 cars.csv
Car;MPG;Cylinders;Displacement;Horsepower;Weight;Acceleration;Model;Origin
broberts@cis106:~/Documents/Csv$ cut -d";" -f1 cars.csv
Car
STRING
Chevrolet Chevelle Malibu
Buick Skylark 320
Plymouth Satellite
AMC Rebel SST
Ford Torino
Ford Galaxie 500
Chevrolet Impala
Plymouth Fury iii
Pontiac Catalina
AMC Ambassador DPL
Citroen DS-21 Pallas
Chevrolet Chevelle Concours (sw)
Ford Torino (sw)
Plymouth Satellite (sw)
AMC Rebel SST (sw)
Dodge Challenger SE
Plymouth 'Cuda 340

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1/1  +  [ ]  [ ]  Tilix: broberts@cis106: ~/Documents/Csv
1: broberts@cis106: ~/Documents/Csv ~
broberts@cis106:~/Documents/Csv$ cut -d";" -f1,3 cars.csv
Car;Cylinders
STRING;INT
Chevrolet Chevelle Malibu;8
Buick Skylark 320;8
Plymouth Satellite;8
AMC Rebel SST;8
Ford Torino;8
Ford Galaxie 500;8
Chevrolet Impala;8
Plymouth Fury iii;8
Pontiac Catalina;8
AMC Ambassador DPL;8
Citroen DS-21 Pallas;4
Chevrolet Chevelle Concours (sw);8
Ford Torino (sw);8
Plymouth Satellite (sw);8

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1/1  +  [ ]  [ ]  Tilix: broberts@cis106: ~/Documents/Csv
1: broberts@cis106: ~/Documents/Csv ~
broberts@cis106:~/Documents/Csv$ cut -d";" -f1,3 cars.csv --output-delimiter=" = "
Car = Cylinders
STRING = INT
Chevrolet Chevelle Malibu = 8
Buick Skylark 320 = 8
Plymouth Satellite = 8
AMC Rebel SST = 8
Ford Torino = 8
Ford Galaxie 500 = 8
Chevrolet Impala = 8
Plymouth Fury iii = 8
Pontiac Catalina = 8
AMC Ambassador DPL = 8
Citroen DS-21 Pallas = 4
Chevrolet Chevelle Concours (sw) = 8
Ford Torino (sw) = 8
Plymouth Satellite (sw) = 8
AMC Rebel SST (sw) = 8
Dodge Challenger SE = 8
Plymouth 'Cuda 340 = 8
Ford Mustang Boss 302 = 8

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1/1  +  [ ] [ ]  Tilix: broberts@cis106: ~/Documents/Csv
1: broberts@cis106: ~/Documents/Csv
Volkswagen Pickup;44.0;4;97.00;52.00;2130.;24.6;82;Europe
Volkswagen Rabbit;29.0;4;90.00;70.00;1937.;14.0;75;Europe
Volkswagen Rabbit;29.0;4;90.00;70.00;1937.;14.2;76;Europe
Volkswagen Rabbit;29.5;4;97.00;71.00;1825.;12.2;76;Europe
Volkswagen Rabbit;29.8;4;89.00;62.00;1845.;15.3;80;Europe
Volkswagen Rabbit;41.5;4;98.00;76.00;2144.;14.7;80;Europe
Volkswagen Rabbit C (Diesel);44.3;4;90.00;48.00;2085.;21.7;80;Europe
Volkswagen Rabbit Custom;29.0;4;97.00;78.00;1940.;14.5;77;Europe
Volkswagen Rabbit Custom;31.9;4;89.00;71.00;1925.;14.0;79;Europe
Volkswagen Rabbit Custom Diesel;43.1;4;90.00;48.00;1985.;21.5;78;Europe
Volkswagen Rabbit l;36.0;4;105.0;74.00;1980.;15.3;82;Europe
Volkswagen Scirocco;31.5;4;89.00;71.00;1990.;14.9;78;Europe
Volkswagen Super Beetle 117;0;4;97.00;48.00;1978.;20.0;71;Europe
Volkswagen Super Beetle;26.0;4;97.00;46.00;1950.;21.0;73;Europe
Volkswagen Type 3;23.0;4;97.00;54.00;2254.;23.5;72;Europe
Volvo 144ea;19.0;4;121.0;112.0;2868.;15.5;73;Europe
Volvo 145e (sw);18.0;4;121.0;112.0;2933.;14.5;72;Europe
Volvo 244DL;22.0;4;121.0;98.00;2945.;14.5;75;Europe
Volvo 245;20.0;4;130.0;102.0;3150.;15.7;76;Europe
Volvo 264gl;17.0;6;163.0;125.0;3140.;13.6;78;Europe
Volvo Diesel;30.7;6;145.0;76.00;3160.;19.6;81;Europe
broberts@cis106:~/Documents/Csv$

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1/1  +  [ ] [ ]  Tilix: broberts@cis106: ~/Documents/Csv
1: broberts@cis106: ~/Documents/Csv
broberts@cis106:~/Documents/Csv$ head -1 cereal.csv
name;mfr:type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;shelf;weight;cups;rating
broberts@cis106:~/Documents/Csv$ sort -t";" -k4 cereal.csv
Double Chex;R;C;100;2;0;190;1;18;5;80;25;3;1;0.75;44.330856
Corn Flakes;K;C;100;2;0;290;1;21;2;35;25;1;1;1;45.863324
Golden Crisp;P;C;100;2;0;45;0;11;15;40;25;1;1;0.88;35.252444
Crispy Wheat & Raisins;G;C;100;2;1;140;2;11;10;120;25;3;1;0.75;36.176196
Multi-Grain Cheerios;G;C;100;2;1;220;2;15;6;90;25;1;1;1;40.105965
Frosted Mini-Wheats;K;C;100;3;0;0;3;14;7;100;25;2;1;0.8;58.345141
Product 19;K;C;100;3;0;320;1;20;3;45;100;3;1;1;41.503540
Cream of Wheat (Quick);N;H;100;3;0;80;1;21;0;-1;0;2;1;1;64.533816
Grape Nuts Flakes;P;C;100;3;1;140;3;15;5;85;25;3;1;0.88;52.076897
Total Whole Grain;G;C;100;3;1;200;3;16;3;110;100;3;1;1;46.658844
Wheaties;G;C;100;3;1;200;3;17;3;110;25;1;1;1;51.592193
Wheat Chex;R;C;100;3;1;230;3;17;3;115;25;1;1;0.67;49.787445
Raisin Nut Bran;G;C;100;3;2;140;2.5;10.5;8;140;25;3;1;0.5;39.703400
Maypo;A;H;100;4;1;0;0;16;3;95;25;2;1;1;54.850917
Quaker Oat Squares;Q;C;100;4;1;135;2;14;6;110;25;3;1;0.5;49.511874
Life;Q;C;100;4;2;150;2;12;6;95;25;2;1;0.67;45.328074
Quaker Oatmeal;Q;H;100;5;2;0;2.7;-1;-1;110;0;1;1;0.67;50.828392
Honey-comb;P;C;110;1;0;180;0;14;11;35;25;1;1;1.33;28.742414
Frosted Flakes;K;C;110;1;0;200;1;14;11;25;25;1;1;0.75;31.435973
Rice Chex;R;C;110;1;0;240;0;23;2;30;25;1;1;1.13;41.998933
broberts@cis106:~/Documents/Csv$ cat ~/Documents/todo.lst

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## Question 3



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1/1  +  TiliX: broberts@cis106: ~/Documents/Books
1: broberts@cis106: ~/Documents/Books  v

broberts@cis106:~/Documents/Csv$ cd ../Books/
broberts@cis106:~/Documents/Books$ ls
bible.txt  dracula.txt  great-expectations.txt  pride-and-prejudice.txt  war-and-peace.txt
broberts@cis106:~/Documents/Books$ grep "War" war-and-peace.txt
The Project Gutenberg eBook of War and Peace, by Leo Tolstoy
Title: War and Peace
the Minister of War."
in to the Minister of War. Five minutes later he returned and bowing
corridor to the cabinet where the Minister of War was at work. The
narrowed disdainfully, he entered the room of the Minister of War with
interested the Minister of War less than any of the other matters he was
indifferent hands of the Minister of War and the polite adjutant. The
engagement and his reception by the Minister of War.
the Minister of War but also his Most August Majesty the Emperor and
invincibility of the French, and the Minister of War does not even care
to the Emperor Francis; he remembered the Minister of War, the polite
his own house. The Minister of War came up and congratulated him on the
That same night, having taken leave of the Minister of War, Bolκόński
Austrian Council of War at which Suvórov crowed like a cock in reply to
Warmed by the spring sunshine he sat in the calèche looking at the new
Minister of War, Count Arakchéev.
"He is Minister of War, a man trusted by the Emperor, and I need not
of War needlessly deviating."

had first wanted to effect a diversion in Greece and then in Warsaw but
broberts@cis106:~/Documents/Books$ grep -i "War" war-and-peace.txt
The Project Gutenberg eBook of War and Peace, by Leo Tolstoy
Title: War and Peace
*** START OF THE PROJECT GUTENBERG EBOOK WAR AND PEACE ***
WAR AND PEACE
Buonapartes. But I warn you, if you don't tell me that this means war,
things, but Austria never has wished, and does not wish, for war. She
Pávlovna's hand and for some reason drawing it downwards. "Arrange
to get himself killed. Tell me what this wretched war is for?" she
she moved toward Anna Pávlovna. Hélène was so lovely that not only
"You are off to the war, Prince?" said Anna Pávlovna.
* God has given it to me, let him who touches it beware!
more animated. "And believe me, they are reaping the reward of their
through his lorgnette, suddenly turned completely round toward the
Prince Andrew, who had evidently wished to tone down the awkwardness of
his kindly, simple, and modest expression. Anna Pávlovna turned toward
awkwardness or intentionally (no one could have said which) after the
LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.
warranties or the exclusion or limitation of certain types of
broberts@cis106:~/Documents/Books$ grep -ic "War" war-and-peace.txt
1255
broberts@cis106:~/Documents/Books$ grep -iwc "War" war-and-peace.txt
293
broberts@cis106:~/Documents/Books$ grep -in "^peace" war-and-peace.txt
5542:peace. The old man was beside himself: moved the chair on which he was
20046:peace."
26471:peace." But however much they left her in peace she could not now be
33900:peace so long as a single armed enemy remained on Russian soil and told
34397:peace with you. As for the Swedes—it is their fate to be governed by
35057:peace nor war, neither an advance nor a defensive camp at the Drissa
36617:peace and the abolition of war, and secondly, by the fact that when he
44768:peaceful, and glorious fatherland, I should have proclaimed
51593:peace arising from consciousness of having stifled those personal dreams
58824:peace, he said: There can be no peace, for such is the people's will. He
59768:peaceful refuge where he could recover himself, rest, and think over
broberts@cis106:~/Documents/Books$

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broberts@cis106:~/Documents/Books$ grep -Rwi "love" ./
./dracula.txt:know her is to love her. I long to go through the crowded streets of
./dracula.txt:also that there is a chapel of old times. We Transylvanian nobles love
./dracula.txt:battlements and casements. I love the shade and the shadow, and would
./dracula.txt:thought and many blushes, her ill-spelt love-letter, and writing in my
./dracula.txt:"You yourself never loved; you never love!" On this the other women
./dracula.txt:"Yes, I too can love; you yourselves can tell it from the past. Is it
./dracula.txt:to speak more. Oh, Mina, couldn't you guess? I love him. I am blushing
./dracula.txt:words. But oh, Mina, I love him; I love him; I love him! There, that
./dracula.txt:I could love him in time; and when I shook my head his hands trembled,
./dracula.txt:what I would do if I were a man and wanted to make a girl love me. No, I
./dracula.txt:began pouring out a perfect torrent of love-making, laying his very
./dracula.txt:"Yes, there is some one I love, though he has not told me yet that he
./dracula.txt:my dear, and a fine fellow, or you could not love him--hasn't spoken

./war-and-peace.txt:40681:loved him and respected him, and sympathize with you with all my heart."
./war-and-peace.txt:44670:lived. But now it is too late. I know it!"
./war-and-peace.txt:48561:lined with fox fur, that had once been smart, and dirty hempen conviction
./war-and-peace.txt:48690:livid face stained with blood and dust.
./war-and-peace.txt:50235:loved that man. What has become of him? Is he alive?...
./war-and-peace.txt:51651:loved face, a new life force took possession of her and compelled her
to
./war-and-peace.txt:51658:lived appeared on the surface. All her inward labor, her dissatisfaction
./war-and-peace.txt:51971:loved no one but Prince Andrew and had never ceased to love him. She
./war-and-peace.txt:52917:loved for the first and only time in her life and felt that she was
./war-and-peace.txt:55272:lured one to itself. Pierre glanced up at the sky and the twinkling
./war-and-peace.txt:62242:lay down on the sofa.
./war-and-peace.txt:62346:loved for their beauty. But do I love my wife? I don't love her, but.
..
./war-and-peace.txt:62817:loved Natásha and when dying had left her to his friend. But the father
broberts@cis106:~/Documents/Books$
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1: broberts@cis106: ~/Documents/Books
broberts@cis106:~/Documents/Books$ grep -wniR "^d[aeiou]..." ./
./dracula.txt:136:don't know how I should be able to get on without it.
./dracula.txt:299:down, and, lest who reads them may fancy that I dined too well before I
./dracula.txt:511:delay. By-and-by, however, as I was curious to know how time was
./dracula.txt:534:doing, and with extraordinary effect, for under his caresses they became
./dracula.txt:712:door:--
./dracula.txt:1234:diary seems horribly like the beginning of the "Arabian Nights," for
./dracula.txt:1245:doing of certain kinds of business. I had spent the day wearily over
./dracula.txt:1371:doubt in question. I shall not fear to sleep in any place where he is
./dracula.txt:1469:diary in shorthand all that has happened since I closed it last. It is
./dracula.txt:1518:dust. In the moonlight opposite me were three young women, ladies by
./dracula.txt:2043:doom; I was to be given to the wolves, and at my own instigation. There
./dracula.txt:2069:dear!
./dracula.txt:2074:diary. I slept till just before the dawn, and when I woke threw myself
./dracula.txt:2354:don't, for there was Mr. Morris telling us his stories, and Arthur never
./dracula.txt:2364:dear, he has to invent it all, for it fits exactly into whatever else he
./dracula.txt:2440:don't wish to tell of the number three until it can be all happy.
./dracula.txt:2462:diary instead. Since my rebuff of yesterday I have a sort of empty
./dracula.txt:2681:dozen whose bones lie in the Greenland seas above"--he pointed
./dracula.txt:3025:Death will sound his trumpet for me. But don't ye dooal an' greet, my
./dracula.txt:3026:deary!"--for he saw that I was crying--"if he should come this very
./dracula.txt:3030:deary, and comin' quick. It may be comin' while we be lookin' and
./dracula.txt:3428:doom. Mate now more demoralised than either of men. His stronger nature
./dracula.txt:3981:don't know what. I remember, though I suppose I was asleep, passing
./dracula.txt:4035:delay, and that all of his work is completed. He will require some few
./dracula.txt:4064:doubt will in a few weeks be all himself. But be careful of him for
./war-and-peace.txt:65343:deed, we never get a conception of freedom in time. For if I examine
broberts@cis106:~/Documents/Books$ grep -iE "a{2}" dracula.txt
help me deck the room with my garlic, which is all the way from Haarlem,
Haarlem. To-night Dr. Van Helsing is going away, as he has to be for a
broberts@cis106:~/Documents/Books$
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