

Lab 7

Question 1

```
hrmartinez@cis106: ~/Documents/Csv
hrmartinez@cis106:~/Documents$ cd Csv/
hrmartinez@cis106:~/Documents/Csv$ ls
cars.csv  cereal.csv  contacts.csv  country.csv  film.csv  test.sh
hrmartinez@cis106:~/Documents/Csv$ cat 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;
```

```
hrmartinez@cis106: ~/Documents/Csv
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;19.8235
73
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;93.7
04912
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
hrmartinez@cis106:~/Documents/Csv$ tac cereal.csv
```

```

hrmartinez@cis106: ~/Documents/Csv
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;Int;Int;Int;Int;Float;Float
;Float
name;mfr;type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;shelf;wei
ght;cups;rating
hrmartinez@cis106:~/Documents/Csv$ cat -nEv cereal.csv
  1 name;mfr;type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;s
help;weight;cups;rating^M$
  2 String;Categorical;Categorical;Int;Int;Int;Int;Int;Float;Float;Int;Int;Int;Int;Flo
at;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;P;C;90;3;0;210;5;13;5;190;25;3;1;0.67;53.313813^M$
 13 Cap'n Crunch;Q;C;120;1;2;220;0;12;12;35;25;2;1;0.75;18.042851^M$
 14 Cheerios;G;C;110;6;2;290;2;17;1;105;25;1;1;1.25;50.764999^M$
 15 Cinnamon Toast Crunch;G;C;120;1;3;210;0;13;9;45;25;2;1;0.75;19.823573^M$

```

```

hrmartinez@cis106: ~/Documents/Csv
hrmartinez@cis106:~/Documents/Csv$ head -n 2 cereal.csv
name;mfr;type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;shelf;wei
ght;cups;rating
String;Categorical;Categorical;Int;Int;Int;Int;Int;Float;Float;Int;Int;Int;Int;Float;Float
;Float
hrmartinez@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
hrmartinez@cis106:~/Documents/Csv$

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Question 2

```
hrmartinez@cis106: ~/Documents/Csv
hrmartinez@cis106:~/Documents/Csv$ head -n 1 cars.csv
Car;MPG;Cylinders;Displacement;Horsepower;Weight;Acceleration;Model;Origin
hrmartinez@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
Ford Mustang Boss 302
Chevrolet Monte Carlo
```

```
hrmartinez@cis106: ~/Documents/Csv
hrmartinez@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
```

```
hrmartinez@cis106: ~/Documents/Csv
hrmartinez@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
```

```
hrmartinez@cis106: ~/Documents/Csv
hrmartinez@cis106:~/Documents/Csv$ sort cars.csv
AMC Ambassador Brougham;13.0;8;360.0;175.0;3821.;11.0;73;US
AMC Ambassador DPL;15.0;8;390.0;190.0;3850.;8.5;70;US
AMC Ambassador SST;17.0;8;304.0;150.0;3672.;11.5;72;US
AMC Concord;19.4;6;232.0;90.00;3210.;17.2;78;US
AMC Concord;24.3;4;151.0;90.00;3003.;20.1;80;US
AMC Concord d/l;18.1;6;258.0;120.0;3410.;15.1;78;US
AMC Concord DL;23.0;4;151.0;0;3035.;20.5;82;US
AMC Concord DL 6;20.2;6;232.0;90.00;3265.;18.2;79;US
AMC Gremlin;18.0;6;232.0;100.0;2789.;15.0;73;US
AMC Gremlin;19.0;6;232.0;100.0;2634.;13.0;71;US
AMC Gremlin;20.0;6;232.0;100.0;2914.;16.0;75;US
AMC Gremlin;21.0;6;199.0;90.00;2648.;15.0;70;US
```

```
hrmartinez@cis106: ~/Documents/Csv
hrmartinez@cis106:~/Documents/Csv$ head -1 cereal.csv
name;mfr;type;calories;protein;fat;sodium;fiber;carbo;sugars;potass;vitamins;shelf;weight;
cups;rating
hrmartinez@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
```

Question 3


```

hrmartinez@cis106: ~/Documents/Books
dracula.txt  pride-and-prejudice.txt
hrmartinez@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."
War's anteroom).
which would take them to the Warsaw highroad, and from there they would
the good of that? War is my profession, but his business is to reign
the Minister of War and went to join the army in Moldavia. While in
of War; Count Bennigsen, the senior general in rank; the Grand Duke
without knowing why. War is not courtesy but the most horrible thing in
The Council of War began to assemble at two in the afternoon in the
than that. We took Vienna, Berlin, Madrid, Naples, Rome, Warsaw, all
"The path to Warsaw, perhaps," Prince Hippolyte remarked loudly and

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hrmartinez@cis106: ~/Documents/Books
Secondly, it is assumed that the goal toward which humanity is being led
eastward and collides with a countermovement from the east westward.
said that God, to reward or punish his people, gave Napoleon power and
directed forces. In describing a war or the subjugation of a people, a
from the doctrine of the equality of man, or the very cruel wars and
of a force compelling men to direct their activity toward a certain end.
Napoleon ordered an army to be raised and go to war. We are so
wars, revolutions, and conquests—are presented by these historians
the west at the end of the eighteenth century and their drive eastward
Is the movement of the Russian people eastward to Kazán and Siberia
soon as revolutions, conquests, or civil wars occur—that is, as soon as
as for instance in a war or a revolution, and so without assuming an
When, for instance, we say that Napoleon ordered armies to go to war,
Men uniting in these combinations always assume such relations toward
is it that millions of men commit collective crimes—make war, commit
every bit of it is occasioned by the forward movement of the ship,
same applies to historical events. Why war and revolution occur we do
downwards, a man indubitably believes this and always expects the law
in memory, or what is the same thing the farther I go forward in my
The Austro-Prussian war appears to us undoubtedly the result of the
crafty conduct of Bismarck, and so on. The Napoleonic wars still seem
or mother, or self-sacrifice with the possibility of a reward, is more
with the self-destruction toward which—ever dissecting and dissecting
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hrmartinez@cis106:~/Documents/Books$ grep -i "War" war-and-peace.txt

```

```
hrmartinez@cis106:~/Documents/Books$ grep -ic "War" war-and-peace.txt
1255
hrmartinez@cis106:~/Documents/Books$ grep -icw "War" war-and-peace.txt
293
hrmartinez@cis106:~/Documents/Books$
```

```
hrmartinez@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
hrmartinez@cis106:~/Documents/Books$
```

```
hrmartinez@cis106: ~/Documents/Books
65495:the undefinable essence of the forces of heat and electricity, or
65503:the subject of history, while free will itself is the subject of
65527:The recognition of man's free will as something capable of influencing
65544:The more this field of motion spreads out before our eyes, the more
65561:The search for these laws has long been begun and the new methods of
65564:the causes of phenomena—the old method of history is moving.
65580:the natural sciences: leaving aside the question of cause, they seek for
65582:the study of the movement of the nations and of humanity and not the
65597:the movements of the bodies, but without disproving it, it would seem
65599:the discovery of the law of Copernicus the Ptolemaic worlds were still
65622:The struggle between the old views and the new was long and stubbornly
65629:the old and the new conception of history, and theology in the same way
65635:the loss of the whole edifice constructed through the ages, on the other
65653:the law of inevitability in history, like the law of Copernicus in
65655:the institutions of state and church are erected.
65665:the motion of the planets, so in history the difficulty of recognizing
65666:the subjection of personality to the laws of space, time, and cause
65674:the external world, on time, and on cause, we arrive at laws."
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hrmartinez@cis106:~/Documents/Books$ grep -in "^The" war-and-peace.txt
```

```
hrmartinez@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
```

```
hrmartinez@cis106:~/Documents/Books$ grep -nR "^l...d" ./
./dracula.txt:5597:lay down, and when I went over to Bersicker he let me stroke his ears
./dracula.txt:9540:loved and honoured as our host is, everything regarding him is of
./dracula.txt:14713:loved him and honoured him more than I can say, and that my latest and
./dracula.txt:15427:loved her, that they did dare much for her sake."
./great-expectastions.txt:129:lamed by stones, and cut by flints, and stung by nettles, and torn by
./great-expectastions.txt:1672:loved Joe,—perhaps for no better reason in those early days than
./great-expectastions.txt:2117:lived in a large and dismal house barricaded against robbers, and who
./great-expectastions.txt:3085:liked sometimes to smoke his pipe there. I had received strict orders
./great-expectastions.txt:9726:loved her none the less because I knew it, and it had no more influence
./great-expectastions.txt:14015:laundress or her niece, he was to keep himself out of their view until
./great-expectastions.txt:14303:lived, before going up the stairs, Garden Court was as still and
./great-expectastions.txt:14615:lived at the top of Compeyson's house (over nigh Brentford it was), and
./great-expectastions.txt:16596:lived in the supplementary house across the back courtyard, opened the
./great-expectastions.txt:16945:liked about informing the rest. This I did next day, through Herbert,
```

```
hrmartinez@cis106:~/Documents/Books$ grep -R "^d[aeiou]..." ./
./dracula.txt:don't know how I should be able to get on without it.
./dracula.txt:descendants of the Dacians; Magyars in the West, and Szekelys in the
./dracula.txt:directing him to secure the best place on the coach for me; but on
./dracula.txt:did not know what to do, for, as an English Churchman, I have been
./dracula.txt:down, and, lest who reads them may fancy that I dined too well before I
./dracula.txt:disagreeable. I had only a couple of glasses of this, and nothing else.
./dracula.txt:dictionary from my bag and looked them out. I must say they were not
./dracula.txt:deep blue and purple in the shadows of the peaks, green and brown where
./dracula.txt:devotion to have neither eyes nor ears for the outer world. There were
./dracula.txt:darkness. It was evident that something very exciting was either
./dracula.txt:deceive me, my friend; I know too much, and my horses are swift." As he
./dracula.txt:delay. By-and-by, however, as I was curious to know how time was
./dracula.txt:doing, and with extraordinary effect, for under his caresses they became
./dracula.txt:darkness, for the rolling clouds obscured the moon. We kept on
./dracula.txt:door:--
```

```
hrmartinez@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
hrmartinez@cis106:~/Documents/Books$
```