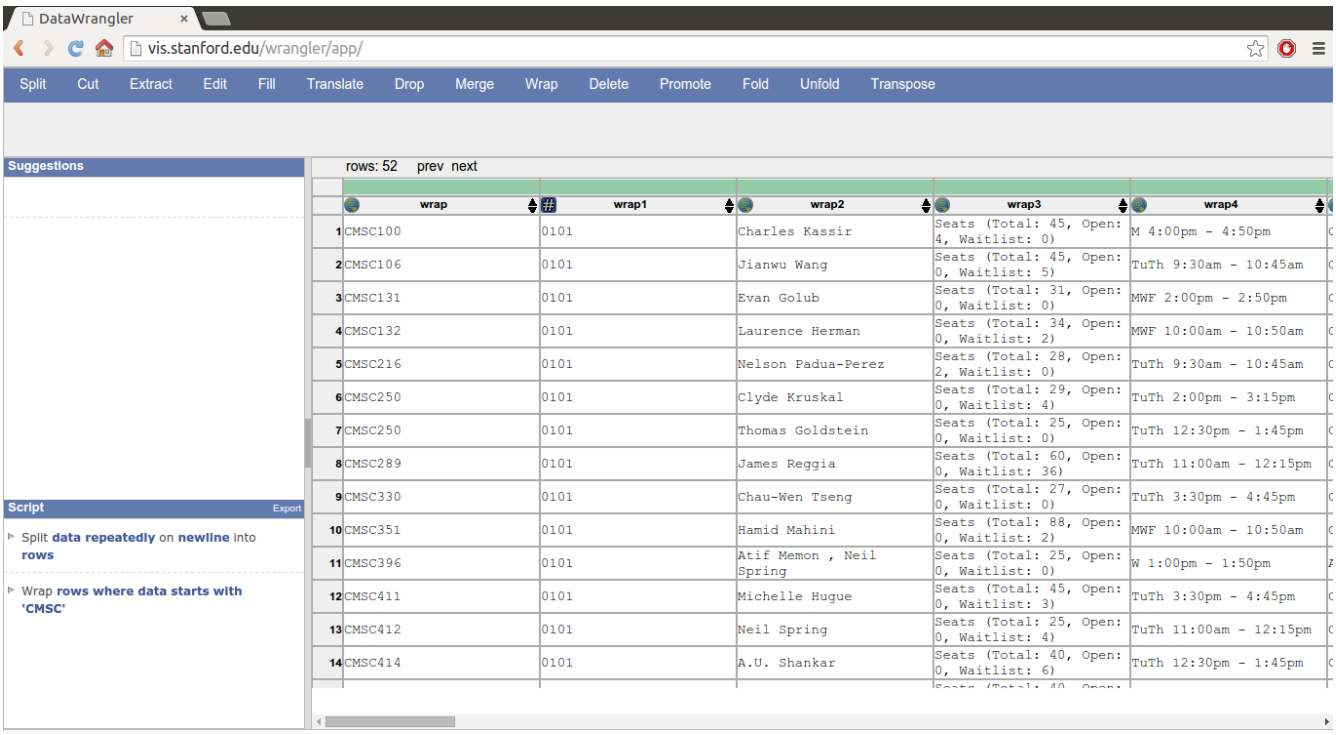
Sailunsi Chen
Lab 4 Submission

========== Data Wrangler Script: CMSC

```
from wrangler import dw
import sys

if(len(sys.argv) < 3):
      sys.exit('Error: Please include an input and output file.  Example python
script.py input.csv output.csv')

w = dw.DataWrangler()

# Split data repeatedly on newline  into  rows
w.add(dw.Split(column=["data"],
               table=0,
               status="active",
               drop=True,
               result="row",
               update=False,
               insert_position="right",
               row=None,
               on="\n",
               before=None,
               after=None,
               ignore_between=None,
               which=1,
               max=0,
               positions=None,
               quote_character=None))

# Wrap  rows where data starts with 'CMSC'
w.add(dw.Wrap(column=[],
              table=0,
              status="active",
              drop=False,
              row=dw.Row(column=[],
             table=0,
             status="active",
             drop=False,
             conditions=[dw.StartsWith(column=[],
                    table=0,
                    status="active",
                    drop=False,
                    lcol="data",
                    value="CMSC",
                    op_str="starts with")])))

w.apply_to_file(sys.argv[1]).print_csv(sys.argv[2])
```



	wrap	wrap1	wrap2	wrap3	wrap4
1	CMSC100	0101	Charles Kassir	Seats (Total: 45, Open: 4, Waitlist: 0)	M 4:00pm - 4:50pm
2	CMSC106	0101	Jianwu Wang	Seats (Total: 45, Open: 0, Waitlist: 5)	TuTh 9:30am - 10:45am
3	CMSC131	0101	Evan Golub	Seats (Total: 31, Open: 0, Waitlist: 0)	MWF 2:00pm - 2:50pm
4	CMSC132	0101	Laurence Herman	Seats (Total: 34, Open: 0, Waitlist: 2)	MWF 10:00am - 10:50am
5	CMSC216	0101	Nelson Padua-Perez	Seats (Total: 28, Open: 2, Waitlist: 0)	TuTh 9:30am - 10:45am
6	CMSC250	0101	Clyde Kruskal	Seats (Total: 29, Open: 0, Waitlist: 4)	TuTh 2:00pm - 3:15pm
7	CMSC250	0101	Thomas Goldstein	Seats (Total: 25, Open: 0, Waitlist: 0)	TuTh 12:30pm - 1:45pm
8	CMSC289	0101	James Reggia	Seats (Total: 60, Open: 0, Waitlist: 36)	TuTh 11:00am - 12:15pm
9	CMSC330	0101	Chau-Wen Tseng	Seats (Total: 27, Open: 0, Waitlist: 0)	TuTh 3:30pm - 4:45pm
10	CMSC351	0101	Hamid Mahini	Seats (Total: 88, Open: 0, Waitlist: 2)	MWF 10:00am - 10:50am
11	CMSC396	0101	Atif Memon , Neil Spring	Seats (Total: 25, Open: 0, Waitlist: 0)	W 1:00pm - 1:50pm
12	CMSC411	0101	Michelle Hugue	Seats (Total: 45, Open: 0, Waitlist: 3)	TuTh 3:30pm - 4:45pm
13	CMSC412	0101	Neil Spring	Seats (Total: 25, Open: 0, Waitlist: 4)	TuTh 11:00am - 12:15pm
14	CMSC414	0101	A.U. Shankar	Seats (Total: 40, Open: 0, Waitlist: 6)	TuTh 12:30pm - 1:45pm

```
========== Data Wrangler Script: World Cup 1
from wrangler import dw
import sys

if(len(sys.argv) < 3):
      sys.exit('Error: Please include an input and output file.  Example python
script.py input.csv output.csv')

w = dw.DataWrangler()

# Split data repeatedly on newline  into  rows
w.add(dw.Split(column=["data"],
               table=0,
               status="active",
               drop=True,
               result="row",
               update=False,
               insert_position="right",
               row=None,
               on="\n",
               before=None,
               after=None,
               ignore_between=None,
               which=1,
               max=0,
               positions=None,
               quote_character=None))

# Wrap  rows where data contains '|-'
w.add(dw.Wrap(column=[],
              table=0,
              status="active",
```

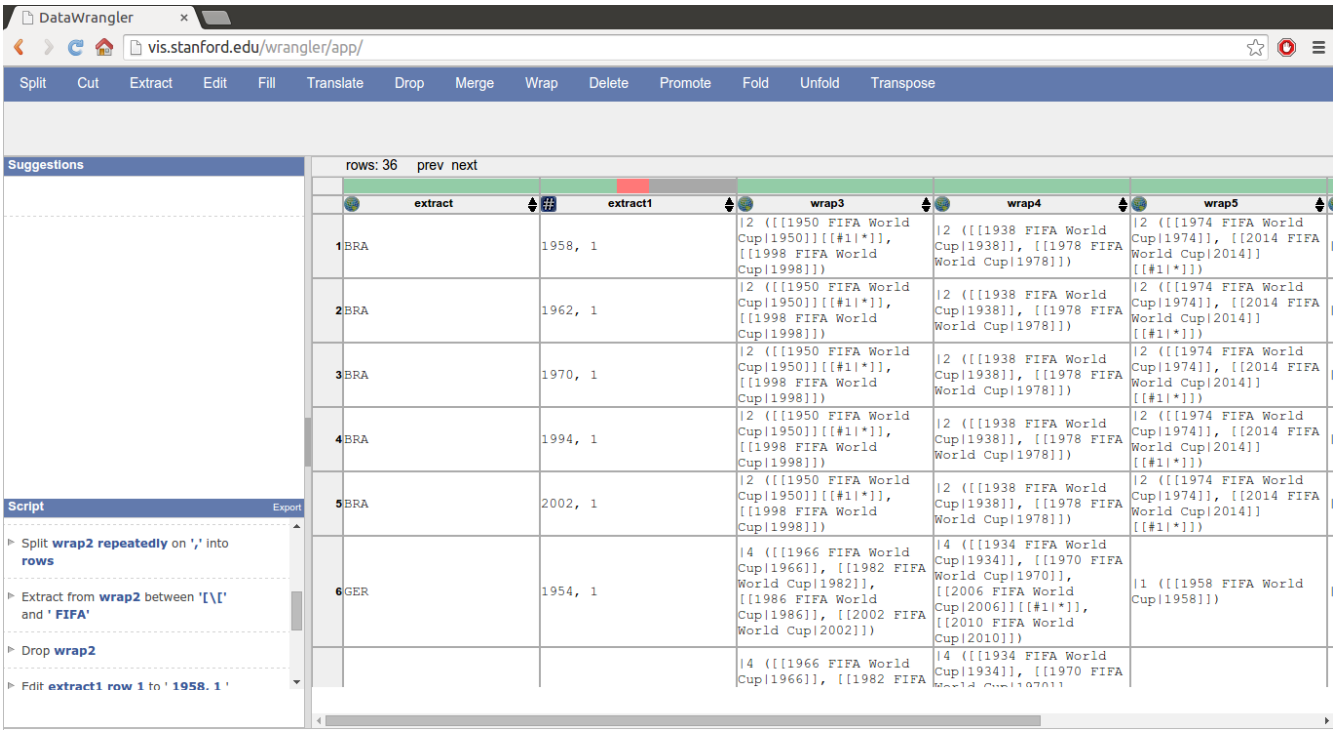
```
               drop=False,
               row=dw.Row(column=[],
              table=0,
              status="active",
              drop=False,
              conditions=[dw.Contains(column=[],
                   table=0,
                   status="active",
                   drop=False,
                   lcol="data",
                   value="|-",
                   op_str="contains")])))

# Drop wrap
w.add(dw.Drop(column=["wrap"],
              table=0,
              status="active",
              drop=True))

# Delete row 1
w.add(dw.Filter(column=[],
                table=0,
                status="active",
                drop=False,
                row=dw.Row(column=[],
              table=0,
              status="active",
              drop=False,
              conditions=[dw.RowIndex(column=[],
                   table=0,
                   status="active",
                   drop=False,
                   indices=[0])])))

# Extract from wrap1 between 'fb|' and '}'
w.add(dw.Extract(column=["wrap1"],
                 table=0,
                 status="active",
                 drop=False,
                 result="column",
                 update=False,
                 insert_position="right",
                 row=None,
                 on=".*",
                 before="}",
                 after="fb\\|",
                 ignore_between=None,
                 which=1,
                 max=1,
                 positions=None))

# Drop wrap1
w.add(dw.Drop(column=["wrap1"],
              table=0,
              status="active",
              drop=True))
```

```
# Split wrap2 repeatedly on ','  into  rows
w.add(dw.Split(column=["wrap2"],
               table=0,
               status="active",
               drop=True,
               result="row",
               update=False,
               insert_position="right",
               row=None,
               on=",",
               before=None,
               after=None,
               ignore_between=None,
               which=1,
               max="0",
               positions=None,
               quote_character=None))

# Extract from wrap2 between '[\[' and ' FIFA'
w.add(dw.Extract(column=["wrap2"],
                 table=0,
                 status="active",
                 drop=False,
                 result="column",
                 update=False,
                 insert_position="right",
                 row=None,
                 on=".*",
                 before=" FIFA",
                 after="\\[\\[",
                 ignore_between=None,
                 which=1,
                 max=1,
                 positions=None))

# Drop wrap2
w.add(dw.Drop(column=["wrap2"],
              table=0,
              status="active",
              drop=True))

# Edit extract1 row 1  to ' 1958, 1 '
w.add(dw.Edit(column=["extract1"],
              table=0,
              status="active",
              drop=False,
              result="column",
              update=True,
              insert_position="right",
              row=dw.Row(column=[],
             table=0,
             status="active",
             drop=False,
             conditions=[dw.RowIndex(column=[],
                  table=0,
                  status="active",
                  drop=False,
```

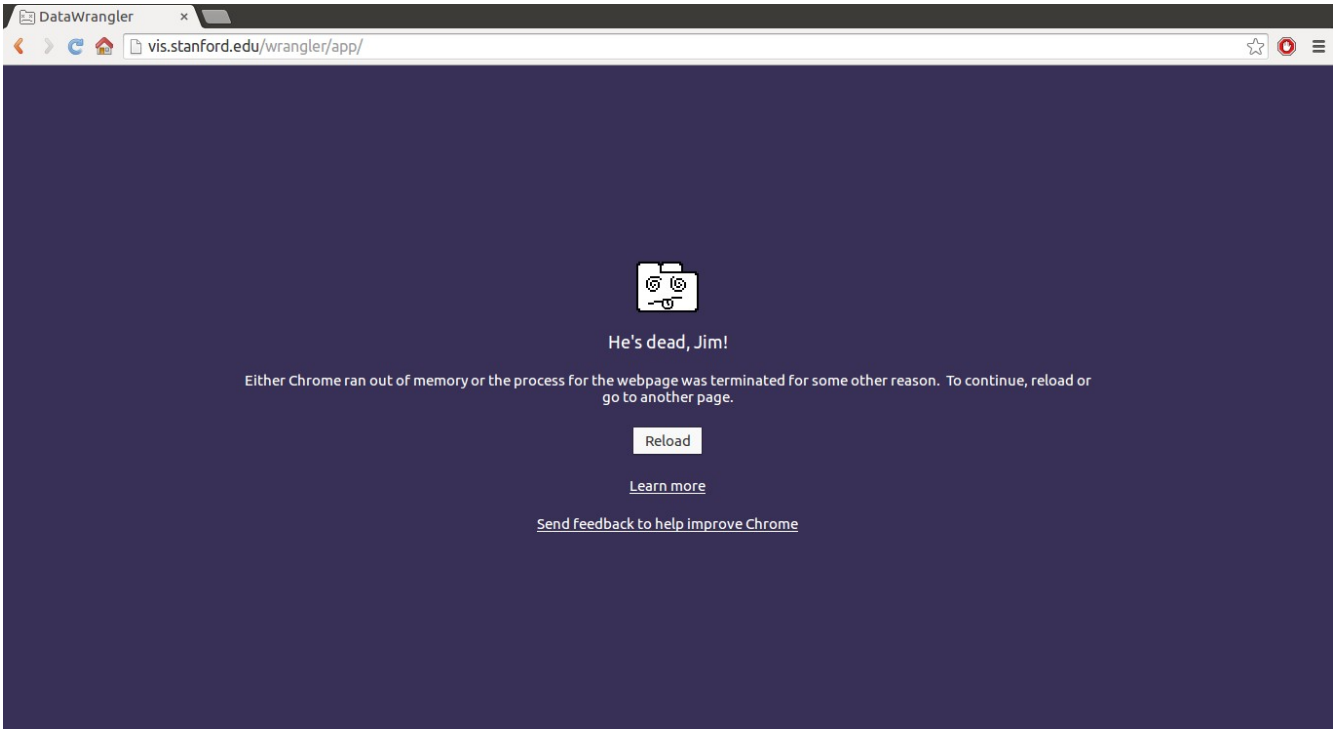
```
                    indices=[0])]),
                on=None,
                before=None,
                after=None,
                ignore_between=None,
                which=1,
                max=1,
                positions=None,
                to="1958, 1",
                update_method=None))

    # Edit extract1 row 2  to ' 1962, 1 '
    w.add(dw.Edit(column=["extract1"],
                table=0,
                status="active",
                drop=False,
                result="column",
                update=True,
                insert_position="right",
                row=dw.Row(column=[],
               table=0,
               status="active",
               drop=False,
               conditions=[dw.RowIndex(column=[],
                    table=0,
                    status="active",
                    drop=False,
                    indices=[1])]),
                on=None,
                before=None,
                after=None,
                ignore_between=None,
                which=1,
                max=1,
                positions=None,
                to="1962, 1",
                update_method=None))

    # Edit extract1 row 3  to ' 1970, 1 '
    w.add(dw.Edit(column=["extract1"],
                table=0,
                status="active",
                drop=False,
                result="column",
                update=True,
                insert_position="right",
                row=dw.Row(column=[],
               table=0,
               status="active",
               drop=False,
               conditions=[dw.RowIndex(column=[],
                    table=0,
                    status="active",
                    drop=False,
                    indices=[2])]),
                on=None,
                before=None,
```

```
               after=None,
               ignore_between=None,
               which=1,
               max=1,
               positions=None,
               to="1970, 1",
               update_method=None))

# Edit extract1 row 4  to ' 1994, 1 '
w.add(dw.Edit(column=["extract1"],
               table=0,
               status="active",
               drop=False,
               result="column",
               update=True,
               insert_position="right",
               row=dw.Row(column=[],
              table=0,
              status="active",
              drop=False,
              conditions=[dw.RowIndex(column=[],
                   table=0,
                   status="active",
                   drop=False,
                   indices=[3])]),
               on=None,
               before=None,
               after=None,
               ignore_between=None,
               which=1,
               max=1,
               positions=None,
               to="1994, 1",
               update_method=None))

# Edit extract1 row 5  to ' 2002, 1 '
w.add(dw.Edit(column=["extract1"],
               table=0,
               status="active",
               drop=False,
               result="column",
               update=True,
               insert_position="right",
               row=dw.Row(column=[],
              table=0,
              status="active",
              drop=False,
              conditions=[dw.RowIndex(column=[],
                   table=0,
                   status="active",
                   drop=False,
                   indices=[4])]),
               on=None,
               before=None,
               after=None,
               ignore_between=None,
               which=1,
```

```
                max=1,
                positions=None,
                to="2002, 1",
                update_method=None))

# Edit extract1 row 6  to ' 1954, 1 '
w.add(dw.Edit(column=["extract1"],
                table=0,
                status="active",
                drop=False,
                result="column",
                update=True,
                insert_position="right",
                row=dw.Row(column=[],
               table=0,
               status="active",
               drop=False,
               conditions=[dw.RowIndex(column=[],
                    table=0,
                    status="active",
                    drop=False,
                    indices=[5])]),
                on=None,
                before=None,
                after=None,
                ignore_between=None,
                which=1,
                max=1,
                positions=None,
                to="1954, 1",
                update_method=None))

w.apply_to_file(sys.argv[1]).print_csv(sys.argv[2])
```



========== Data Wrangler Script: World Cup 2
Data wrangler keeps crashing before I can finish World Cup 1.
I have given up on moving forward with it. This is not even
remotely close to a competent tool for cleaning up data.



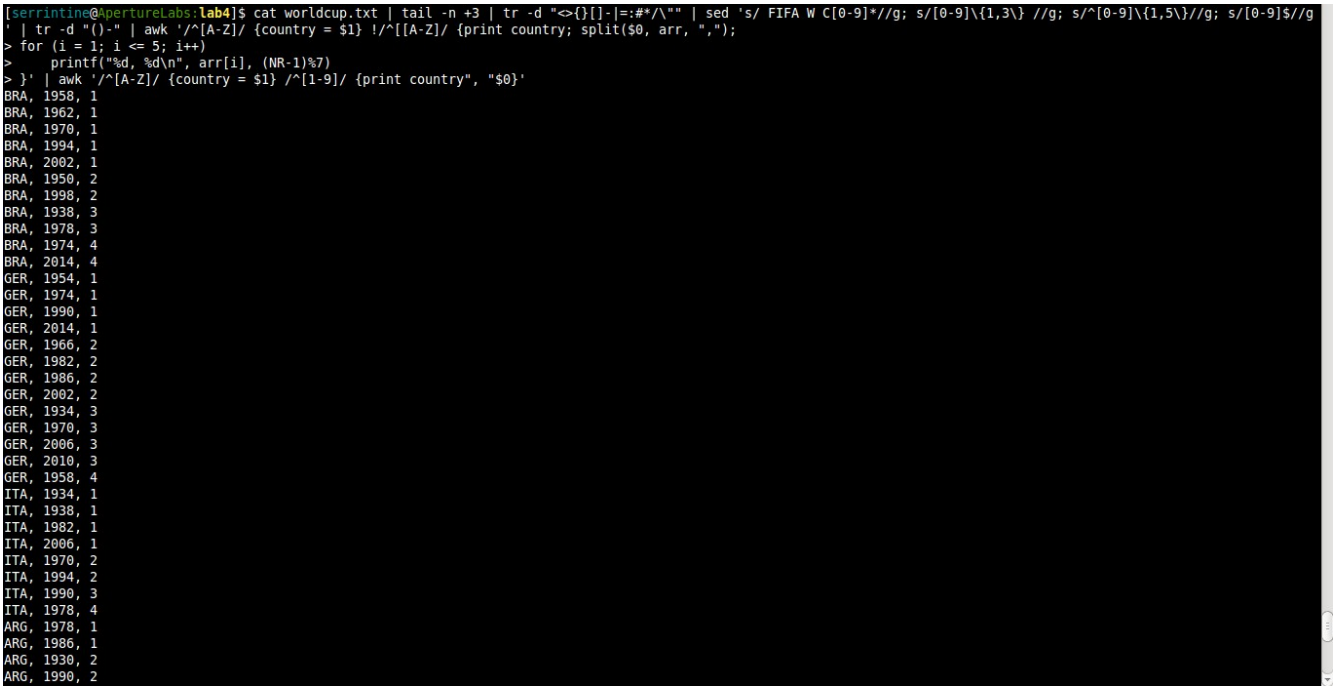
========== UNIX Tools Command: CMSC

```
cat cmsc.txt | sed '/^$/d; s/[()]//g; s/[[:space:]]*$//' | awk '/^([A-Z]{3,3}|([M|W|F|TuTh]+ ))/ {print $1", "$2, $3, $4} !/^([A-Z]{3,3}|([M|W|F|TuTh]+ ))/ {print $0}' | awk '/^CMSC/ {class = $1} /^[0-9]+$/ {print class, $0} !/(^CMSC|^[0-9]+$|^Seats)/ {print $0} /^Seats/ {print $3, $5, $7}' | awk -F', ' 'BEGIN {printf "Course No., Section No., Instructor, Seats, Open, Waitlist, Days, Time, Bldg., Room No."} /^CMSC/ {print concat; concat = $0} !/^CMSC/ {concat = concat", "$0;} END {print concat}'
```

```
[serrintine@ApertureLabs:lab4]$ cat cmsc.txt | sed '/^$/d; s/[()]//g; s/[[:space:]]*$//' | awk '/^([A-Z]{3,3}|([M|W|F|TuTh]+ ))/ {print $1", "$2, $3, $4} !/^([A-Z]{3,3}|([M|W|F|TuTh]+ ))/ {print $0}' | awk '/^CMSC/ {class = $1} /^[0-9]+$/ {print class, $0} !/(^CMSC|^[0-9]+$|^Seats)/ {print $0} /^Seats/ {print $3, $5, $7}' | awk -F', ' 'BEGIN {printf "Course No., Section No., Instructor, Seats, Open, Waitlist, Days, Time, Bldg., Room No."} /^CMSC/ {print concat; concat = $0} !/^CMSC/ {concat = concat", "$0;} END {print concat}'
Course No., Section No., Instructor, Seats, Open, Waitlist, Days, Time, Bldg., Room No.
CMSC100, 0101, Charles Kassir, 45, 4, 0, M, 4:00pm - 4:50pm, CSI, 2117
CMSC106, 0101, Jianwu Wang, 45, 0, 5, TuTh, 9:30am - 10:45am, CSI, 2117
CMSC131, 0101, Evan Golub, 31, 0, 0, MWF, 2:00pm - 2:50pm, CSI, 1115
CMSC131, 0102, Evan Golub, 31, 0, 0, MWF, 2:00pm - 2:50pm, CSI, 1115
CMSC131, 0103, Evan Golub, 31, 1, 0, MWF, 2:00pm - 2:50pm, CSI, 1115
CMSC131, 0104, Evan Golub, 31, 1, 0, MWF, 2:00pm - 2:50pm, CSI, 1115
CMSC131, 0201, Evan Golub, 31, 1, 0, MWF, 3:00pm - 3:50pm, CSI, 1115
CMSC131, 0202, Evan Golub, 31, 1, 0, MWF, 3:00pm - 3:50pm, CSI, 1115
CMSC131, 0203, Evan Golub, 31, 0, 0, MWF, 3:00pm - 3:50pm, CSI, 1115
CMSC131, 0204, Evan Golub, 31, 0, 1, MWF, 3:00pm - 3:50pm, CSI, 1115
CMSC131, 0301, Thomas Reinhardt, 31, 0, 0, MWF, 11:00am - 11:50am, CSI, 1115
CMSC131, 0302, Thomas Reinhardt, 31, 0, 0, MWF, 11:00am - 11:50am, CSI, 1115
CMSC131, 0303, Thomas Reinhardt, 31, 0, 0, MWF, 11:00am - 11:50am, CSI, 1115
CMSC131, 0304, Thomas Reinhardt, 31, 0, 0, MWF, 11:00am - 11:50am, CSI, 1115
CMSC131, 0401, Thomas Reinhardt, 31, 0, 0, MWF, 12:00pm - 12:50pm, CSI, 1115
CMSC131, 0402, Thomas Reinhardt, 31, 7, 0, MWF, 12:00pm - 12:50pm, CSI, 1115
CMSC131, 0403, Thomas Reinhardt, 31, 0, 0, MWF, 12:00pm - 12:50pm, CSI, 1115
CMSC131, 0404, Thomas Reinhardt, 31, 7, 0, MWF, 12:00pm - 12:50pm, CSI, 1115
CMSC132, 0101, Laurence Herman, 34, 0, 2, MWF, 10:00am - 10:50am, CSI, 1115
CMSC132, 0102, Laurence Herman, 34, 0, 0, MWF, 10:00am - 10:50am, CSI, 1115
CMSC132, 0103, Laurence Herman, 34, 0, 0, MWF, 10:00am - 10:50am, CSI, 1115
CMSC132, 0104, Laurence Herman, 34, 0, 2, MWF, 10:00am - 10:50am, CSI, 1115
CMSC132, 0201, Laurence Herman, 34, 6, 0, MWF, 1:00pm - 1:50pm, CSI, 1115
CMSC132, 0202, Laurence Herman, 34, 1, 0, MWF, 1:00pm - 1:50pm, CSI, 1115
CMSC132, 0203, Laurence Herman, 34, 0, 0, MWF, 1:00pm - 1:50pm, CSI, 1115
CMSC132, 0204, Laurence Herman, 34, 0, 0, MWF, 1:00pm - 1:50pm, CSI, 1115
CMSC132, 0301, Laurence Herman, 30, 3, 0, MWF, 2:00pm - 2:50pm, CSI, 2117
CMSC132, 0302, Laurence Herman, 29, 0, 1, MWF, 2:00pm - 2:50pm, CSI, 2117
CMSC132, 0303, Laurence Herman, 29, 8, 0, MWF, 2:00pm - 2:50pm, CSI, 2117
CMSC216, 0101, Nelson Padua-Perez, 28, 2, 0, TuTh, 9:30am - 10:45am, CSI, 1115
CMSC216, 0102, Nelson Padua-Perez, 28, 0, 0, TuTh, 9:30am - 10:45am, CSI, 1115
CMSC216, 0103, Nelson Padua-Perez, 28, 0, 1, TuTh, 9:30am - 10:45am, CSI, 1115
CMSC216, 0104, Nelson Padua-Perez, 28, 0, 0, TuTh, 9:30am - 10:45am, CSI, 1115
CMSC216, 0201, Nelson Padua-Perez, 28, 0, 0, TuTh, 11:00am - 12:15pm, CSI, 1115
CMSC216, 0202, Nelson Padua-Perez, 28, 0, 1, TuTh, 11:00am - 12:15pm, CSI, 1115
CMSC216, 0203, Nelson Padua-Perez, 28, 0, 1, TuTh, 11:00am - 12:15pm, CSI, 1115
CMSC216, 0204, Nelson Padua-Perez, 28, 0, 0, TuTh, 11:00am - 12:15pm, CSI, 1115
```

========== UNIX Tools Command: World Cup 1

```
cat worldcup.txt | tail -n +3 | tr -d "<>{}[]-|=:#*/\"" | sed 's/ FIFA W C[0-9]*//g; s/[0-9]\{1,3\} //g; s/^[0-9]\{1,5\}//g; s/[0-9]$//g' | tr -d "()-" | awk '/^[A-Z]/ {country = $1} !/^[[A-Z]/ {print country; split($0, arr, ",");
for (i = 1; i <= 5; i++)
    printf("%d, %d\n", arr[i], (NR-1)%7)
}' | awk '/^[A-Z]/ {country = $1} /^[1-9]/ {print country", "$0}'
```



```
========== Python Script: CMSC
f = open("cmsc.txt","r")
print("Course No., Section No., Instructor, Seats, Open, Waitlist, Days, Time,
Bldg., Room No.")
line = f.readline().strip()
while line:
    course = line
    line = f.readline().strip()
    while line:
        out = []
        out.append(course)
        out.append(line)
        # out.append('"' + f.readline().strip() + '"')
        out.append(f.readline().strip())
        line = f.readline().strip().split(": ")
        out.append(line[1].split(",")[0])
        out.append(line[2].split(",")[0])
        out.append(line[3].split(")")[0])
        line = f.readline().strip().split()
        out.append(line[0])
        out.append(' '.join(line[1:]))
        line = f.readline().strip().split()
        out.append(line[0])
        out.append(line[1])
        print(', '.join(map(str,out)))
        line = f.readline().strip()
    line = f.readline().strip()
f.close()
```

```
[serrintine@ApertureLabs:lab4]$ python cmsc.py
Course No., Section No., Instructor, Seats, Open, Waitlist, Days, Time, Bldg., Room No.
CMSC100, 0101, Charles Kassir, 45, 4, 0, M, 4:00pm - 4:50pm, CSI, 2117
CMSC106, 0101, Jianwu Wang, 45, 0, 5, TuTh, 9:30am - 10:45am, CSI, 2117
CMSC131, 0101, Evan Golub, 31, 0, 0, MWF, 2:00pm - 2:50pm, CSI, 1115
CMSC131, 0102, Evan Golub, 31, 0, 0, MWF, 2:00pm - 2:50pm, CSI, 1115
CMSC131, 0103, Evan Golub, 31, 1, 0, MWF, 2:00pm - 2:50pm, CSI, 1115
CMSC131, 0104, Evan Golub, 31, 1, 0, MWF, 2:00pm - 2:50pm, CSI, 1115
CMSC131, 0201, Evan Golub, 31, 1, 0, MWF, 3:00pm - 3:50pm, CSI, 1115
CMSC131, 0202, Evan Golub, 31, 1, 0, MWF, 3:00pm - 3:50pm, CSI, 1115
CMSC131, 0203, Evan Golub, 31, 0, 0, MWF, 3:00pm - 3:50pm, CSI, 1115
CMSC131, 0204, Evan Golub, 31, 0, 1, MWF, 3:00pm - 3:50pm, CSI, 1115
CMSC131, 0301, Thomas Reinhardt, 31, 0, 0, MWF, 11:00am - 11:50am, CSI, 1115
CMSC131, 0302, Thomas Reinhardt, 31, 0, 0, MWF, 11:00am - 11:50am, CSI, 1115
CMSC131, 0303, Thomas Reinhardt, 31, 0, 0, MWF, 11:00am - 11:50am, CSI, 1115
CMSC131, 0304, Thomas Reinhardt, 31, 0, 0, MWF, 11:00am - 11:50am, CSI, 1115
CMSC131, 0401, Thomas Reinhardt, 31, 0, 0, MWF, 12:00pm - 12:50pm, CSI, 1115
CMSC131, 0402, Thomas Reinhardt, 31, 7, 0, MWF, 12:00pm - 12:50pm, CSI, 1115
CMSC131, 0403, Thomas Reinhardt, 31, 0, 0, MWF, 12:00pm - 12:50pm, CSI, 1115
CMSC131, 0404, Thomas Reinhardt, 31, 7, 0, MWF, 12:00pm - 12:50pm, CSI, 1115
CMSC132, 0101, Laurence Herman, 34, 0, 2, MWF, 10:00am - 10:50am, CSI, 1115
CMSC132, 0102, Laurence Herman, 34, 0, 0, MWF, 10:00am - 10:50am, CSI, 1115
CMSC132, 0103, Laurence Herman, 34, 0, 0, MWF, 10:00am - 10:50am, CSI, 1115
CMSC132, 0104, Laurence Herman, 34, 0, 2, MWF, 10:00am - 10:50am, CSI, 1115
CMSC132, 0201, Laurence Herman, 34, 6, 0, MWF, 1:00pm - 1:50pm, CSI, 1115
CMSC132, 0202, Laurence Herman, 34, 1, 0, MWF, 1:00pm - 1:50pm, CSI, 1115
CMSC132, 0203, Laurence Herman, 34, 0, 0, MWF, 1:00pm - 1:50pm, CSI, 1115
CMSC132, 0204, Laurence Herman, 34, 0, 0, MWF, 1:00pm - 1:50pm, CSI, 1115
CMSC132, 0301, Laurence Herman, 30, 3, 0, MWF, 2:00pm - 2:50pm, CSI, 2117
CMSC132, 0302, Laurence Herman, 29, 0, 1, MWF, 2:00pm - 2:50pm, CSI, 2117
CMSC132, 0303, Laurence Herman, 29, 8, 0, MWF, 2:00pm - 2:50pm, CSI, 2117
CMSC216, 0101, Nelson Padua-Perez, 28, 2, 0, TuTh, 9:30am - 10:45am, CSI, 1115
CMSC216, 0102, Nelson Padua-Perez, 28, 0, 0, TuTh, 9:30am - 10:45am, CSI, 1115
CMSC216, 0103, Nelson Padua-Perez, 28, 0, 1, TuTh, 9:30am - 10:45am, CSI, 1115
CMSC216, 0104, Nelson Padua-Perez, 28, 0, 0, TuTh, 9:30am - 10:45am, CSI, 1115
CMSC216, 0201, Nelson Padua-Perez, 28, 0, 0, TuTh, 11:00am - 12:15pm, CSI, 1115
CMSC216, 0202, Nelson Padua-Perez, 28, 0, 1, TuTh, 11:00am - 12:15pm, CSI, 1115
CMSC216, 0203, Nelson Padua-Perez, 28, 0, 1, TuTh, 11:00am - 12:15pm, CSI, 1115
CMSC216, 0204, Nelson Padua-Perez, 28, 0, 0, TuTh, 11:00am - 12:15pm, CSI, 1115
CMSC216, 0301, Nelson Padua-Perez, 28, 0, 0, TuTh, 2:00pm - 3:15pm, CSI, 1115
CMSC216, 0302, Nelson Padua-Perez, 28, 2, 0, TuTh, 2:00pm - 3:15pm, CSI, 1115
CMSC216, 0303, Nelson Padua-Perez, 28, 0, 0, TuTh, 2:00pm - 3:15pm, CSI, 1115
CMSC216, 0304, Nelson Padua-Perez, 28, 0, 0, TuTh, 2:00pm - 3:15pm, CSI, 1115
CMSC250, 0101, Clyde Kruskal, 29, 0, 4, TuTh, 2:00pm - 3:15pm, CSI, 2117
```

```
========== Python Script: World Cup 1
import re

f = open("worldcup.txt","r")
print("Country, Year, Title")
f.readline()
f.readline()
line = f.readline().strip()
while line:
    for i in range(4):
        position = re.findall("\|\d{4}]]", f.readline().strip())
        for pos in position:
            out = []
            out.append(re.search(r"[A-Z]{3}", line).group(0))
            out.append(pos[1:-2])
            out.append(i+1)
            print(', '.join(map(str,out)))
    f.readline()
    f.readline()
    line = f.readline().strip()
f.close()
```

```
========== Python Script: World Cup 2
import sys
import pandas as pd

worldcup = pd.read_csv(sys.stdin, header=0, names=['Country', 'Year', 'Title'])
pivoted = worldcup.pivot(index='Country', columns='Year', values='Title')
print pivoted.to_string(na_rep='-', index_names=False)
```

```
[serrintine@ApertureLabs:lab4]$ python worldcup1.py > worldcup1.csv
[serrintine@ApertureLabs:lab4]$ python worldcup2.py < worldcup1.csv
     1930  1934  1938  1950  1954  1958  1962  1966  1970  1974  1978  1982  1986  1990  1994  1998  2002  2006  2010  2014
ARG     2     -     -     -     -     -     -     -     -     -     1     -     1     2     -     -     -     -     -     2
AUT     -     4     -     -     3     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -
BEL     -     -     -     -     -     -     -     -     -     -     -     -     4     -     -     -     -     -     -     -
BRA     -     -     3     2     -     1     1     -     1     4     3     -     -     -     1     2     1     -     -     4
BUL     -     -     -     -     -     -     -     -     -     -     -     -     -     -     4     -     -     -     -     -
CHI     -     -     -     -     -     -     3     -     -     -     -     -     -     -     -     -     -     -     -     -
CRO     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     3     -     -     -     -
ENG     -     -     -     -     -     -     -     1     -     -     -     -     -     4     -     -     -     -     -     -
ESP     -     -     -     4     -     -     -     -     -     -     -     -     -     -     -     -     -     -     1     -
FRA     -     -     -     -     -     3     -     -     -     -     -     4     3     -     -     1     -     2     -     -
GER     -     3     -     -     1     4     -     2     3     1     -     2     2     1     -     -     2     3     3     1
HUN     -     -     2     -     2     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -
ITA     -     1     1     -     -     -     -     -     2     -     4     1     -     3     2     -     -     1     -     -
KOR     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     4     -     -     -
NED     -     -     -     -     -     -     -     -     -     2     2     -     -     -     -     4     -     -     2     3
POL     -     -     -     -     -     -     -     -     -     3     -     3     -     -     -     -     -     -     -     -
POR     -     -     -     -     -     -     -     3     -     -     -     -     -     -     -     -     -     4     -     -
SWE     -     -     4     3     -     2     -     -     -     -     -     -     -     -     3     -     -     -     -     -
TCH     -     2     -     -     -     -     2     -     -     -     -     -     -     -     -     -     -     -     -     -
TUR     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     3     -     -     -
URS     -     -     -     -     -     -     -     4     -     -     -     -     -     -     -     -     -     -     -     -
URU     1     -     -     1     4     -     -     -     4     -     -     -     -     -     -     -     -     -     4     -
USA     3     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -
YUG     4     -     -     -     -     -     4     -     -     -     -     -     -     -     -     -     -     -     -     -
[serrintine@ApertureLabs:lab4]$
```