SDEV 300 - Project 4

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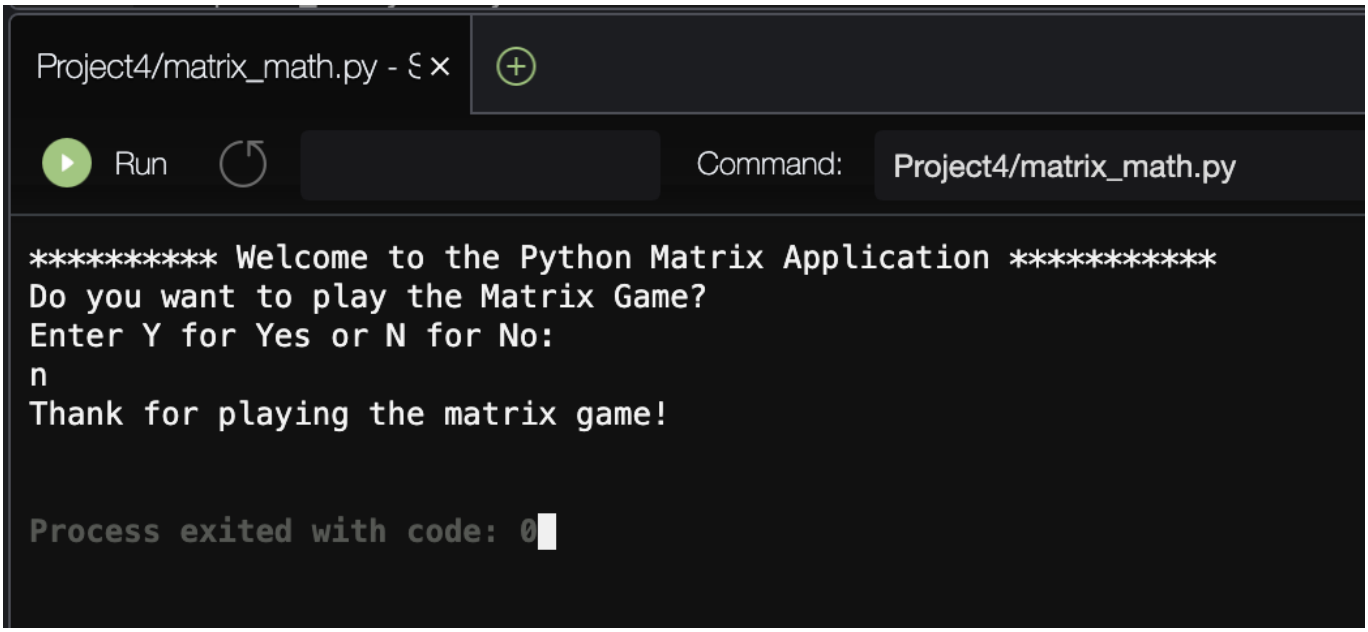
This post will serve as documentation for the project 4. Includes test cases and screenshots for the python matrix math and the python data-munging program.

Python Matrix Math program

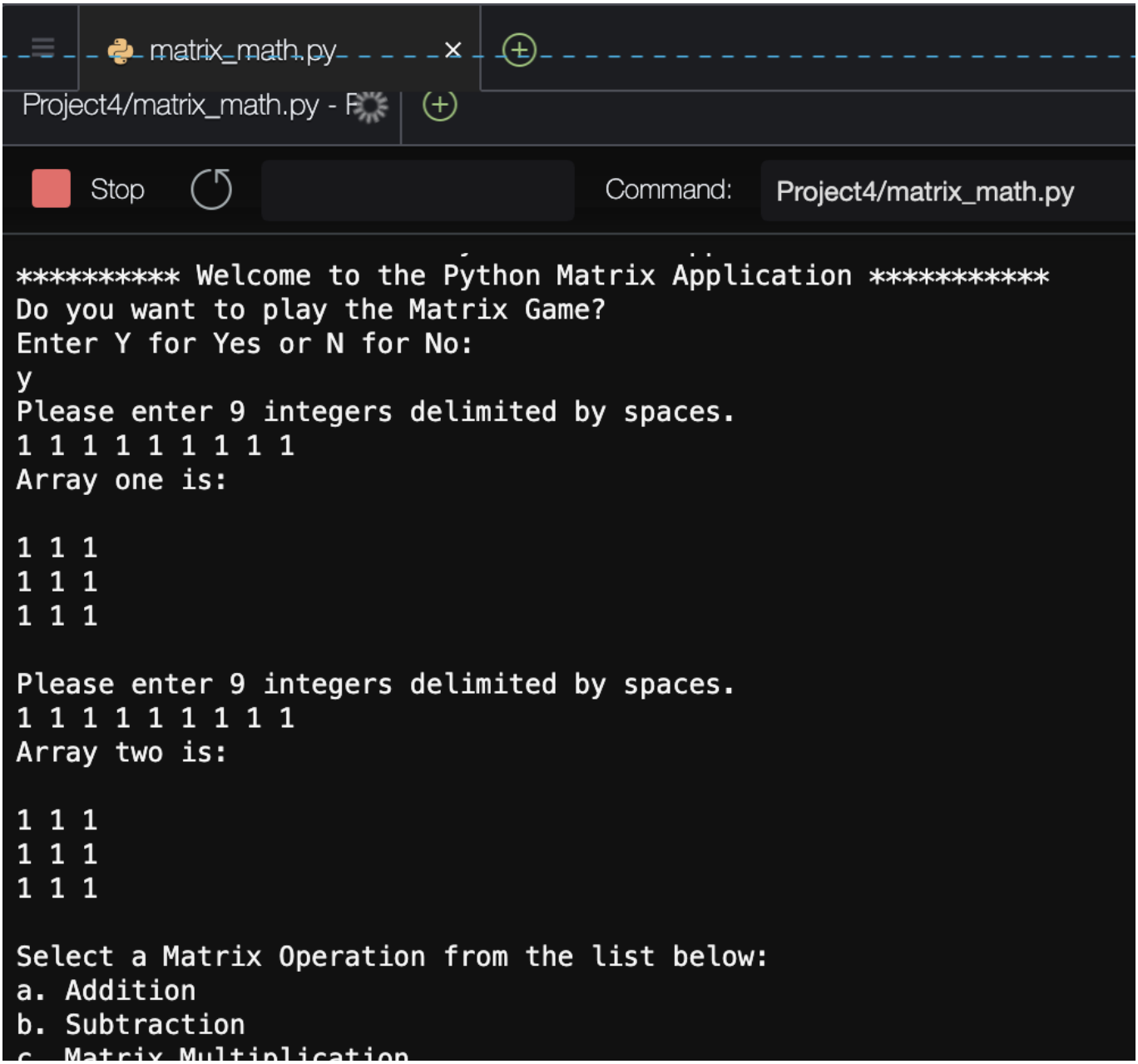
Test Case	Input	Expected Output	Actual Output	Pass?
1a	n	Exit prompt	(please see screenshot below)	Yes
1b	y, 1 1 1 1 1 1 1 1 1, 1 1 1 1 1 1 1 1 1, a	addition of the two matrices	(please see screenshot below)	Yes
1c	y, 2 2 2 2 2 2 2 2 2, 1 1 1 1 1 1 1 1 1, b	subtraction of the two matrices	(please see screenshot below)	Yes
1d	y, 1 2 3 4 5 6 7 8 9, 9 8 7 6 5 4 3 2 1	matrix multiplication of the two matrices	(please see screenshot below)	Yes
1e	y, 3 6 3 6 3 6 3 6 3, 6 3 6 3 6 3 6 3 6	element by element multiplication of the two matrices	(please see screenshot below)	Yes
1f	1	error	request for proper response (please see screenshot below)	Yes
1g	y, 1 2 3 4 5 6 7 8, 1 2 3 4 5 6 7 8 9 10	error	request for proper response (please see screenshot below)	Yes

Test Case 1a



Output in Cloud9 IDE of test case 1a (exit message)

Test Case 1b



```
c. Matrix multiplication
d. Element by element multiplication
a
You have selected Addition. The results are:

2 2 2
2 2 2
2 2 2

The Transpose is:

2 2 2
2 2 2
2 2 2

The row and column mean values of the results are:

Row: 2.0, 2.0, 2.0
Column: 2.0, 2.0, 2.0
Do you want to play the Matrix Game?
Enter Y for Yes or N for No:
```

Output in Cloud9 IDE of test case 1b (showing matrix addition)

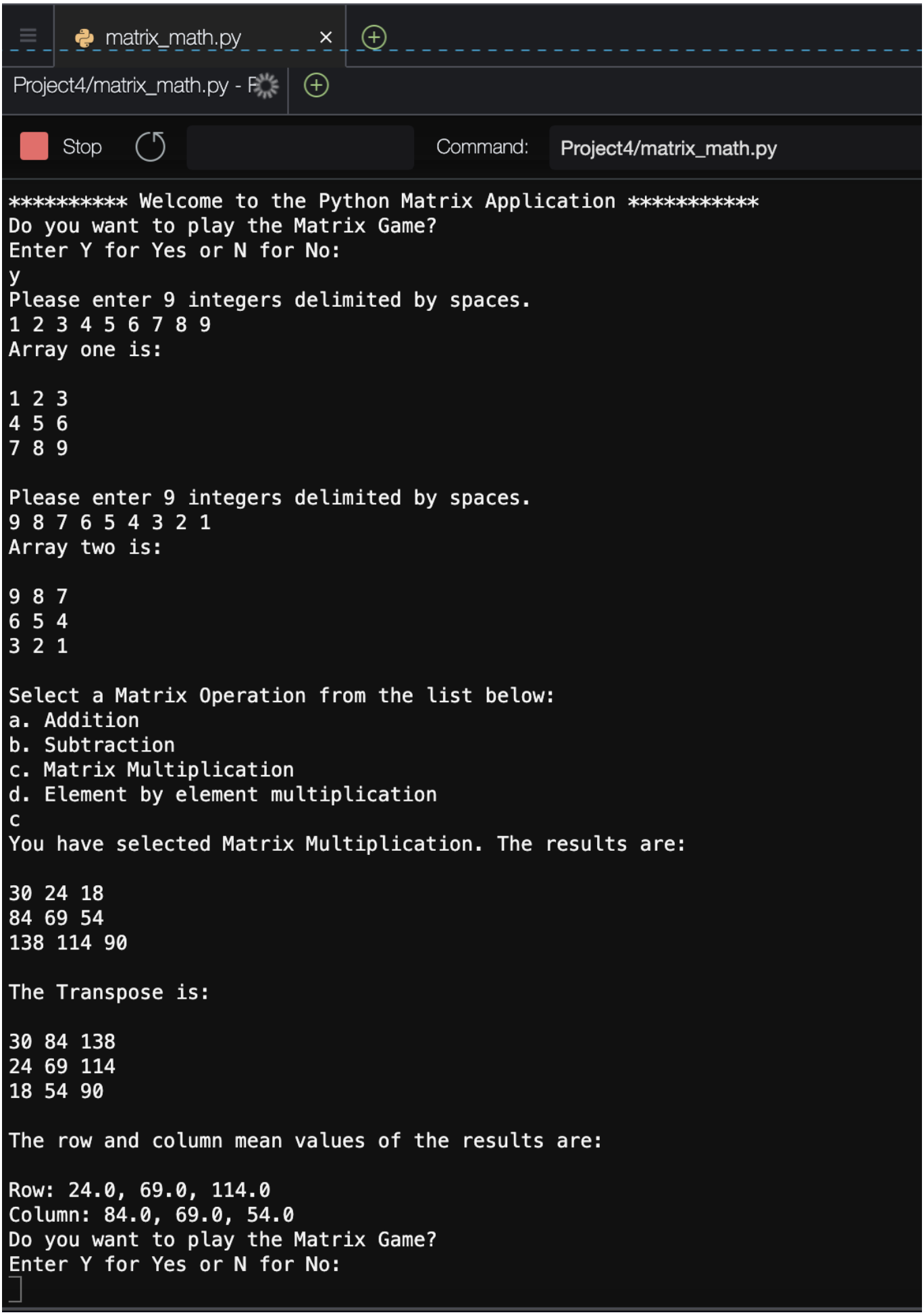
Test Case 1c

```
Do you want to play the Matrix Game?
Enter Y for Yes or N for No:
y
Please enter 9 integers delimited by spaces.
2 2 2 2 2 2 2 2 2
Array one is:

2 2 2
2 2 2
2 2 2

Please enter 9 integers delimited by spaces.
1 1 1 1 1 1 1 1 1
Array two is:

1 1 1
1 1 1
1 1 1

Select a Matrix Operation from the list below:
a. Addition
```

```
b. Subtraction
c. Matrix Multiplication
d. Element by element multiplication
b
You have selected Subtraction. The results are:

1 1 1
1 1 1
1 1 1

The Transpose is:

1 1 1
1 1 1
1 1 1

The row and column mean values of the results are:

Row: 1.0, 1.0, 1.0
Column: 1.0, 1.0, 1.0
Do you want to play the Matrix Game?
Enter Y for Yes or N for No:
```

Output in Cloud9 IDE of test case 1c (showing matrix subtraction)

Test Case 1d



Output in Cloud9 IDE of test case 1d (showing matrix multiplication)

Test Case 1e

```
Do you want to play the Matrix Game?
Enter Y for Yes or N for No:
y
Please enter 9 integers delimited by spaces.
3 6 3 6 3 6 3 6 3
Array one is:

3 6 3
6 3 6
3 6 3

Please enter 9 integers delimited by spaces.
6 3 6 3 6 3 6 3 6
Array two is:

6 3 6
3 6 3
6 3 6

Select a Matrix Operation from the list below:
a. Addition
b. Subtraction
c. Matrix Multiplication
d. Element by element multiplication
d
You have selected Element by element multiplication. The results are:

54 54 54
81 54 81
54 54 54

The Transpose is:

54 81 54
54 54 54
54 81 54

The row and column mean values of the results are:

Row: 54.0, 72.0, 54.0
Column: 63.0, 54.0, 63.0
Do you want to play the Matrix Game?
Enter Y for Yes or N for No:
```

Output in Cloud9 IDE of test case 1e (showing element by element multiplication)

Test Case 1f

```
Do you want to play the Matrix Game?
Enter Y for Yes or N for No:
1
Do you want to play the Matrix Game?
Enter Y for Yes or N for No:
```

Output in Cloud9 IDE of test case 1f (showing incorrect input handling)

Test Case 1g

```
Do you want to play the Matrix Game?
Enter Y for Yes or N for No:
y
Please enter 9 integers delimited by spaces.
1 2 3 4 5 6 7 8
Invalid input, please try again
Please enter 9 integers delimited by spaces.
1 2 3 4 5 6 7 8 9 10
Invalid input, please try again
Please enter 9 integers delimited by spaces.
```

Output in Cloud9 IDE of test case 1g (showing incorrect input handling)

Python Data Munging Application

The second program did not take key inputs, but instead was passed a csv file of corrupt data (also attached). The program then munged and formatted the data properly.

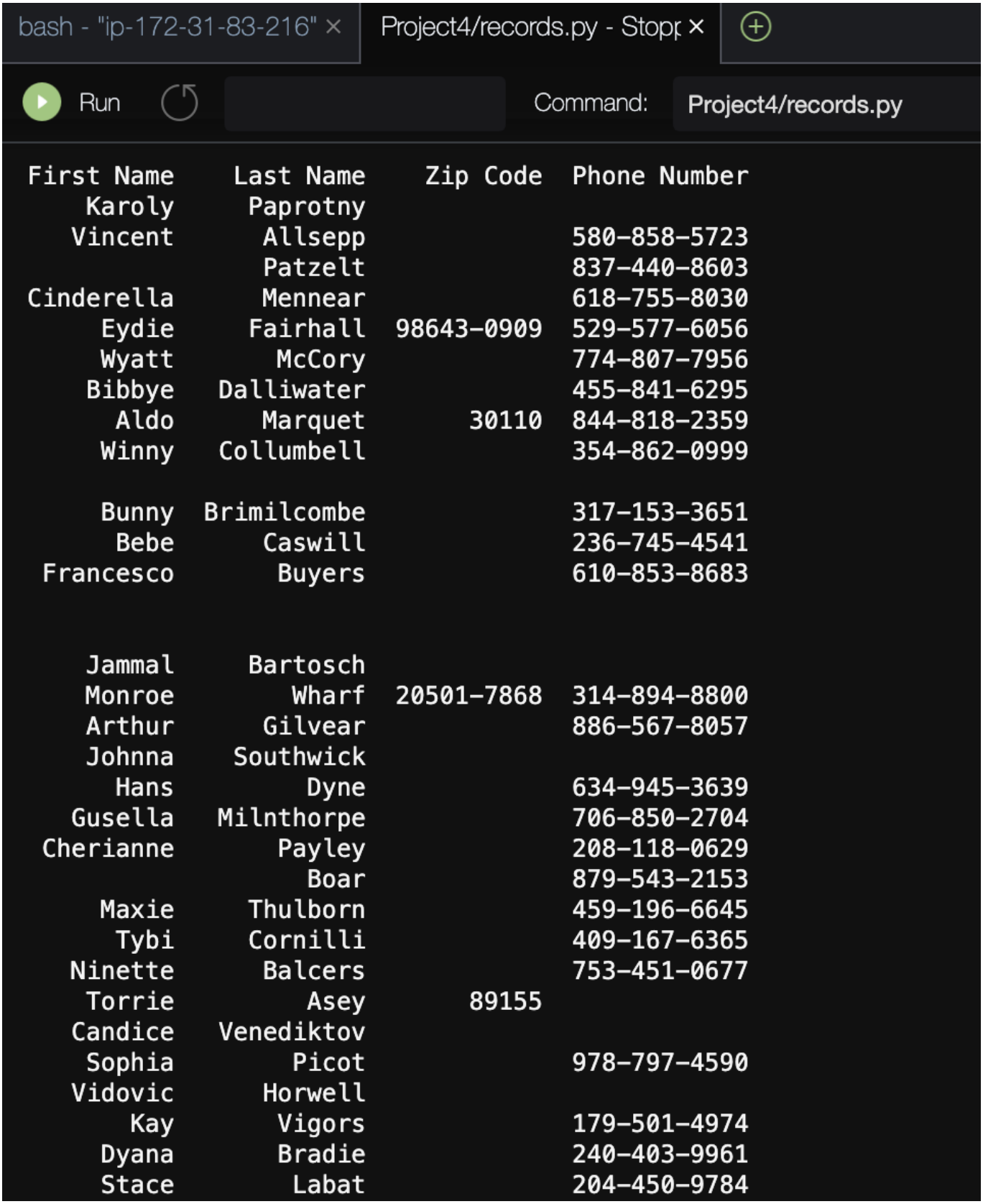
Data before running through the program

```
1  first_name,last_name,zip,phone
2  Karoly,Paprotny,309288,49582890
3  Vincent,Allsepp,,580-858-5723
4  ,Patzelt,,837-440-8603
5  Cinderella,Mennear,18636-2822,6187558030
6  Eydie,Fairhall,986430909,5295776056
7  Wyatt,McCory,,7748077956
```

```
 7  Wyatt,McCory,,7748077956
 8  Bibbye,Dalliwater,92509 CEDEX,4558416295
 9  Aldo,Marquet,30110,8448182359
10  Winny,Collumbell,901095,3548620999
11  ,,,
12  Bunny,Brimilcombe,,3171533651
13  Bebe,Caswill,21-542,2367454541
14  Francesco,Buyers,,6108538683
15  ,,,
16  ,,,
17  Jammal,Bartosch,4580-389,6205316
18  Monroe,Wharf,205017868,3148948800
19  Arthur,Gilvear,,8865678057
20  Johnna,Southwick,7400,
21  Hans,Dyne,,6349453639
22  Gusella,Milnthorpe,,7068502704
23  Cherianne,Payley,5032,208-118-0629
24  ,Boar,,8795432153
25  Maxie,Thulborn,69928-000,4591966645
26  Tybi,Cornilli,197730,409-167-6365
27  Ninette,Balcers,,7534510677
28  Torrie,Asey,89155,702-964-56
29  Candice,Venediktov,A91,79651599
30  Sophia,Picot,,9787974590
31  Vidovic,Horwell,384 72,
32  Kay,Vigors,273 71,1795014974
33  Dyana,Bradie,,2404039961
34  Stace,Labat,29872-2222,2044509784
35  ,Cicculi,,651-355-9400
36  Nola,Duding,90-557,9761705573
37  Juana,Wittleton,,94054006
38  Sigfrid,Hegley,4210,1013501690
39  Antone,Coltherd,684058,7484337730
40  Wileen,Harford,,119-204-5478
41  Pierce,Philps,,7571981594
42  Lanette,Cordy,,3773530284
43  ,,5101,
44  Florina,Wallwood,4635-207,2337567053
45  Brietta,Pheby,446587,7607996454
46  Juline,,,8905101349
```

```
47  Devlin,Jasiak,86-120,733-536-1328
48  Norbie,Guyon,,4133464718
49  Rycca,Kielty,34282,9411057151
50  Skipper,Brindle,,7978028423
51  Abie,Elham,31709 CEDEX,5406808310
```

Output of the python data-munging program




```
First Name     Last Name     Zip Code   Phone Number
    Karoly      Paprotny
   Vincent       Allsepp               580-858-5723
                 Patzelt               837-440-8603
Cinderella       Mennear               618-755-8030
     Eydie      Fairhall   98643-0909   529-577-6056
     Wyatt        McCory               774-807-7956
    Bibbye    Dalliwater               455-841-6295
      Aldo       Marquet        30110   844-818-2359
     Winny    Collumbell               354-862-0999

     Bunny   Brimilcombe               317-153-3651
      Bebe       Caswill               236-745-4541
 Francesco        Buyers               610-853-8683


    Jammal      Bartosch
    Monroe         Wharf   20501-7868   314-894-8800
    Arthur       Gilvear               886-567-8057
    Johnna     Southwick
      Hans          Dyne               634-945-3639
   Gusella    Milnthorpe               706-850-2704
 Cherianne        Payley               208-118-0629
                   Boar               879-543-2153
     Maxie      Thulborn               459-196-6645
      Tybi      Cornilli               409-167-6365
   Ninette       Balcers               753-451-0677
     Torrie          Asey        89155
   Candice    Venediktov
     Sophia         Picot               978-797-4590
   Vidovic       Horwell
       Kay        Vigors               179-501-4974
     Dyana        Bradie               240-403-9961
     Stace         Labat               204-450-9784
```

	Cicculi	651-355-9400
Nola	Duding	976-170-5573
Juana	Wittleton	
Sigfrid	Hegley	101-350-1690
Antone	Coltherd	748-433-7730
Wileen	Harford	119-204-5478
Pierce	Philps	757-198-1594
Lanette	Cordy	377-353-0284
Florina	Wallwood	233-756-7053
Brietta	Phehy	760-799-6454