KCPD Crime Data

Frequently, a programmer's job will be to aggregate large amounts of information in order to analyze information easier. Many times this involves getting data from multiple files. The Kansas City Missouri government provides open access to a lot of their data. https://data.kcmo.org/ We’re going to look at crime data for Kansas City Police Department.

**Files**

1.**incidents.csv**​­ Each row contains information about a reported crime. It provides a Report Number, Reported Date, Reported Time, Offense Number, and the Zip Code the offense occurred in. The Report Number ( Report\_No ) field is unique in this file.

2.**Details.csv**​­ Each row contains information about people involved in the offense. Either Victims or Suspects. The fields in this file are Report Number, Involvement, Race, Sex, Age, and Firearm Used. You will be mostly using 2 fields from this file. You’ll need the Report Number and the Involvement. If the Involvement field is VIC then the record is for victim information. There can be multiple records with the same Report No in this file.

3.**offenses.docx**​­ This is a csv file of the offense codes that are used in the incidents file. There are 2 columns; Offense and Description. The offense is the offense number from incidents.

**Requirements**

●Display a menu to the user with 3 choices; Summary by Zip Code, Victim Count by Offense Type, and Quit. If the user does not choose one of the items in the menu then they will be warned and required to re­enter a value.

●Summary by zip code will display a the summary of incident counts by each zip code. ( How many offenses occurred in each zip code )

○If a zip code is blank or 0 then it will be considered part of zip code 99999 which is for unknown or unreported zip codes.

○The output summary will be ordered by zip code

●Victim Count by offense type will displays the number of victims for each type of offense.

○The output will be ordered by Victim Count in descending order (the offense type with the highest number of victims, then the next highest, etc.)

○If you try to read through the details file for every offense, then you'll find your program will be quite slow. You may want to read the files into dictionaries or

some other data type to speed up operations. ( Remember looking up by the key in a dictionary is much quicker than finding a record in a list or tuple )

●All of the fields have a header as the top line.

●You may assume these files are in the program directory and are named properly.

○You may not assume that the files will open without errors. If there is an error opening one, you should warn the user and quit the program.

**Useful Modules**

CSV module is great for reading comma separated value files. These are text files where the column are separated by single commas. You don’t have to use the csv module, but it can make things simpler. ​<https://docs.python.org/2/library/csv.html>

**Example Output ( Some of the rows have been removed from the summary by zip code to make the document shorter. You should include all the data in your output )**

>>> ================================ RESTART ================================

>>>

KCPD Crime Statistics

1.Summary by Zip Code

2.Victim count by offense Type Q. Quit

==> ​e

You must choose one of the selections 1,2,Q

KCPD Crime Statistics

1.Summary by Zip Code

2.Victim count by offense Type Q. Quit

==> ​1

Zip Code Crimes

====================

64126 809

64127 3983

64128 1749

64129 1037

64130 4718

64131 2080

64132 2060

64133 2005

64134 2928

64135 15

64136 116

64137 655

64138 1011

64139 59

99999 1537

KCPD Crime Statistics

1.Summary by Zip Code

2.Victim count by offense Type Q. Quit

|  |  |
| --- | --- |
| ==> ​2 |  |
| Offense | Victims |

===================================

|  |  |
| --- | --- |
| Stealing | 18381 |
| Non Agg Assault | 8968 |
| Burglary | 8102 |
| Property Damage | 4364 |
| Misc Violation | 4352 |
| Assault | 4227 |
| Auto Theft | 3861 |
| Possession/Sale/Dist | 2893 |
| Robbery | 2672 |
| Fraud | 1844 |
| Forgery | 712 |
| Family Offense | 661 |
| Rape | 597 |
| Weapons Law Violation | 595 |
| Disorderly Conduct | 570 |
| Casualty/Suicide | 463 |
| DUI | 393 |
| Sex Offense Other | 387 |
| Arson | 317 |
| Homicide | 189 |
| Embezzlement | 184 |
| Prostitution | 175 |
| Stolen Property | 147 |
| Liquor Law Violation | 85 |
| Missing/Runaway | 3 |
| Loitering | 3 |

KCPD Crime Statistics

1.Summary by Zip Code

2.Victim count by offense Type Q. Quit

==> ​q

>>>

**Small Dataset Example Output**

We’ve included a small dataset to help you with your testing. Many times it is easier working with a small amount of data to ensure you are getting the correct values. You may find it helpful to create other datasets to test different things that can happen in your program. This data is under the directory smalldata.

KCPDCrimeStatistics

1.SummarybyZipCode

2.VictimcountbyoffenseType Q.Quit

==>​1

ZipCode Crimes

====================

|  |  |
| --- | --- |
| 64108 | 1 |
| 64130 | 3 |
| 99999 | 1 |

KCPDCrimeStatistics

1.SummarybyZipCode

2.VictimcountbyoffenseType Q.Quit

|  |  |
| --- | --- |
| ==>​2 |  |
| Offense | Victims |

===================================

|  |  |
| --- | --- |
| Possession/Sale/Dist | 3 |
| SexOffenseOther | 2 |
| StolenProperty | 1 |

KCPDCrimeStatistics

1.SummarybyZipCode

2.VictimcountbyoffenseType Q.Quit

==>

Add options when the user chooses to get a report of the victim count by offense type.

●User can choose all offenses for a specific zip code

●User can get a count by victims or by suspects

●User can choose to sort by Offense Type or by total value.

●When an invalid choice is made by the user it will re­prompt until they choose valid input.

**Example Output**

>>>================================RESTART

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>>>

KCPDCrimeStatistics

1.SummarybyZipCode

2.VictimcountbyoffenseType Q.Quit

==>​2

OffenseSummary

1.SummaryforallZipCodes

2.ChooseaZipcode

==>​1

DetailRecordstoCount

1.CountbyVictims VIC

2.CountbySuspects SUS

==>​2

SortRecordsby

1.OffenseDescription

2.DetailCount

|  |  |
| --- | --- |
| ==>​1 |  |
| Offense | Suspects |

===================================

|  |  |  |
| --- | --- | --- |
| Arson | 288 | |
| Assault | | 2821 |
| AutoTheft | | 3507 |
| Burglary | | 7555 |
| Casualty/Suicide | | 78 |
| DUI | | 36 |
| DisorderlyConduct | | 21 |
| Embezzlement | | 108 |
| FamilyOffense | | 372 |
| Forgery | | 599 |
| Fraud | | 1757 |
| Homicide | | 138 |
| LiquorLawViolation | | 13 |
| Loitering | | 0 |
| MiscViolation | | 2876 |
| Missing/Runaway | | 2 |
| NonAggAssault | | 5208 |
| Possession/Sale/Dist | | 177 |
| PropertyDamage | | 4030 |
| Prostitution | | 18 |
| Rape | | 601 |
| Robbery | | 3127 |
| SexOffenseOther | | 252 |
| Stealing | | 15710 |
| StolenProperty | | 25 |
| WeaponsLawViolation | | 37 |

KCPDCrimeStatistics

1.SummarybyZipCode

2.VictimcountbyoffenseType Q.Quit

==>​2

OffenseSummary

1.SummaryforallZipCodes

2.ChooseaZipcode

==>​2

Enterthezipcodetosearchby==>64030

DetailRecordstoCount

1.CountbyVictims VIC

2.CountbySuspects SUS

==>​1

SortRecordsby

1.OffenseDescription

2.DetailCount

|  |  |
| --- | --- |
| ==>​2 |  |
| Offense | Victims |

===================================

|  |  |
| --- | --- |
| Stealing | 4 |
| Possession/Sale/Dist | 2 |
| WeaponsLawViolation | 1 |
| NonAggAssault | 1 |
| MiscViolation | 1 |
| DUI | 1 |
| Burglary | 1 |

KCPDCrimeStatistics

1.SummarybyZipCode

2.VictimcountbyoffenseType Q.Quit

==>​q

>>>