Team Belleville Script User Operating Manual
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Files required for the Program:

Script Files:
- main.pl
- verify.pl
- questionScript.pl
- censusQuestion.pl
- readFile.pl

Data Files:
- alldata.csv
- censusSmallScale.csv
- censusLargeScale.csv
- questionA1.csv
- questionA2.csv
- questionB2.csv

How to run the Program:

Step 1. Put all script and data files in the same directory

Step 2. Go to the directory with all the script and data files in terminal

Step 3. In terminal, type   `perl main.pl`

Step 4. Wait for the files to parse and the following prompt to come up:

```
Would you like to check data(D), ask a Census data question(C), look
at a premade question(P), or ask a question(Q):
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Check Data(D): This will allow the user to ask if the data exists for crime(s) in certain year(s). Type 'D' and hit enter for this option. *Refer to page 2 for instructions.*

Census data (C): This will allow the user to ask a question about the census data, rather than about the crimes. Type 'C' and hit enter for this option. *Refer to page 5 for instructions.*

Look at a premade question(P): This will allow the user to see an example of a premade question that they can use the data for. Type 'P' and hit enter for this option. *Refer to page 6 for instructions.*

Ask a Question(Q): This will allow the user to ask a question about the crime dataset. Type 'Q' and hit enter for this option. *Refer to page 3 for instructions.*

If you choose Check Data(D):

Step 1. Select the crime(s) you would like to find if there is data for:

- 1.1 Press '1' and hit enter for every crime in Canada.

- 1.2 Press '2' to enter specific crimes.

    - 1.2.1 The user can continually enter crimes to consider in the question until they type 'S' *Refer to page 9 for a list of crimes the user can enter*

Step 2. Select the location(s) you would like to find if there is data for:

- 2.1 Press '1' and hit enter for every location in Canada.

- 2.2 Press '2' to enter specific locations.

    - 2.2.1 The user can continually enter locations to consider in the question until they type 'S' *Refer to page 15 for a list of locations the user can enter*

Step 3. Select the year(s) you would like to find if there is data for:

- 3.1 Press '1' and hit enter for every year in the crime dataset (1998-2015).

- 3.2 Press '2' to enter a single specific year. Must be in between 1998 and 2015.

- 3.3 Press '3' to enter a range of years. Every year in between the entered numbers will be considered in the question.

    - 3.3.1 Enter the first year in the range. Must be in between 1998 and 2015.

    - 3.3.2 Enter the second year in the range. Must be in between 1998 and 2015.

- 3.4 Press '4' to enter two different years. Must be in between 1998 and 2015. These two years will be the only ones considered in the question.

    - 3.4.1 Enter the first year. Must be in between 1998 and 2015.
    - 3.4.2 Enter the second year. Must be in between 1998 and 2015.

If it does not find the data, it will print "FAILED". Otherwise, the data was found.

If you choose Ask a Question(Q):

Step 1. Select the crime(s) you would like to consider in your question:

- 1.1 Press '1' and hit enter for every crime in Canada.

- 1.2 Press '2' to enter specific crimes.

    - 1.2.1 The user can continually enter crimes to consider in the question until they type 'S' *Refer to page 9 for a list of crimes the user can enter*

Step 2. Select the location(s) you would like to consider in your question:

- 2.1 Press '1' and hit enter for every location in Canada.

- 2.2 Press '2' to enter specific locations.

    - 2.2.1 The user can continually enter locations to consider in the question until they type 'S' *Refer to page 15 for a list of locations the user can enter*

Step 3. Select the year(s) you would like to consider in your question:

- 3.1 Press '1' and hit enter for every year in the crime dataset (1998-2015).

- 3.2 Press '2' to enter a single specific year. Must be in between 1998 and 2015.

- 3.3 Press '3' to enter a range of years. Every year in between the entered numbers will be considered in the question.

    - 3.3.1 Enter the first year in the range. Must be in between 1998 and 2015.

    - 3.3.2 Enter the second year in the range. Must be in between 1998 and 2015.

- 3.4 Press '4' to enter two different years. Must be in between 1998 and 2015. These two years will be the only ones considered in the question.

    - 3.4.1 Enter the first year. Must be in between 1998 and 2015.

    - 3.4.2 Enter the second year. Must be in between 1998 and 2015.

Step 4. Select the statistic you would like to consider in your question. This will be the only statistic considered.

- 4.1 Press '1' and hit enter to select the number of "Actual incidents" or number of times it happened.

- 4.2 Press '2' and hit enter to select the "Rate per 100,000 population" of each crime.

- 4.3 Press '3' and hit enter to select the "Percentage change in rate" of each crime.

If all data required by the question is present in the csv file, the answer will be stored in the file directory as a new csv file called "answer.csv". Otherwise, it will print "WARNING: DATA REQUIRED NOT FOUND!" If it prints this message and you're not sure why, please check to see if your data is in our database using the Check Data script.

If you choose ask a Census data question(C):

The program will print "Census Data Question, censusQuestion.pl" and break.
If you manually open censusQuestion.pl:

Step 1. Select which location you would like to consider the Census Data for:

- 1.1 Press '1' and hit enter to see the data for all of Canada.

- 1.2 Press '2' and hit enter to see the data for one of the Provinces or Territories of Canada.

    - 1.2.1 Enter the number code of the Province or Territory you would like to look at to see its data. *All codes for this section are shown on-screen.*

- 1.3 Press '3' and hit enter to see the data for one of the Cities or Municipalities of Canada.

    - 1.3.1 Enter the number code of the City or Municipality you would like to look at to see its data. *Refer to page 11 for a list of codes the user can enter*

Step 2. Select the Characteristic you would like to consider the Census Data for:

- 2.1 Press '1' and hit enter to see the Topics within Characteristic: "Total Population & Dwelling Counts".

    - 2.1.1 Enter '1' to see the Population for that area in 2011.

    - 2.1.2 Enter '2' to see the Population for that area in 2006.

    - 2.1.3 Enter '3' to see the Population Change in Percent (%) from 2006 to 2011 in that area.

    - 2.1.4 Enter '4' to see the total number of Private Dwellings in that area in 2011.

    - 2.1.5 Enter '5' to see the total number of Private Dwellings Occupied by Usual Residents in that area in 2011.

- 2.1.6 Enter '6' to see the Population Density Per Square Kilometre in that area in 2011.

- 2.1.7 Enter '7' to see the Land Area of that area.

- 2.2 Press '2' and hit enter to see the Topics within Characteristic "Age Characteristics".

    - 2.2.1 Enter '1' to see a list of options between 0 and 14 years of age.

        - 2.2.1.1 Enter '1' to see the data of those between 0 and 4 years of age in that area in 2011.

        - 2.2.1.2 Enter '2' to see the data of those between 5 and 9 years of age in that area in 2011.

        - 2.2.1.3 Enter '3' to see the data of those between 10 and 14 years of age in that area in 2011.

    - 2.2.2 Enter '2' to see a list of options between 15 and 24 years of age.

        - 2.2.2.1 Enter '1' to see the data of those between 15 and 19 years of age in that area in 2011.

        - 2.2.2.2 Enter '2' to see only the data of those at age 15 in that area in 2011.

        - 2.2.2.3 Enter '3' to see only the data of those at age 16 in that area in 2011.

        - 2.2.2.4 Enter '4' to see only the data of those at age 17 in that area in 2011.

        - 2.2.2.5 Enter '5' to see only the data of those at age 18 in that area in 2011.

        - 2.2.2.6 Enter '6' to see only the data of those at age 19 in that area in 2011.

        - 2.2.2.7 Enter '7' to see the data of those between 20 and 24 years of age in that area in 2011.

    - 2.2.3 Enter '3' to see a list of options between 25 and 59 years of age.

- 2.2.3.1 Enter '1' to see the data of those between 25 and 29 years of age in that area in 2011.
- 2.2.3.2 Enter '2' to see the data of those between 30 and 34 years of age in that area in 2011.

- 2.2.3.3 Enter '3' to see the data of those between 35 and 39 years of age in that area in 2011.

- 2.2.3.4 Enter '4' to see the data of those between 40 and 44 years of age in that area in 2011.

- 2.2.3.5 Enter '5' to see the data of those between 45 and 49 years of age in that area in 2011.

- 2.2.3.6 Enter '6' to see the data of those between 50 and 54 years of age in that area in 2011.

- 2.2.3.7 Enter '7' to see the data of those between 55 and 59 years of age in that area in 2011.

- 2.2.4 Enter '4' to see a list of options between the ages of 60 years of age and older.

    - 2.2.4.1 Enter '1' to see the data of those between 60 and 65 years of age in that area in 2011.

    - 2.2.4.2 Enter '2' to see the data of those between 65 and 69 years of age in that area in 2011.

    - 2.2.4.3 Enter '3' to see the data of those between 70 and 74 years of age in that area in 2011.

    - 2.2.4.4 Enter '4' to see the data of those between 75 and 79 years of age in that area in 2011.

    - 2.2.4.5 Enter '5' to see the data of those between 80 and 84 years of age in that area in 2011.

    - 2.2.4.6 Enter '6' to see the data of those 85 years of age and older in that area in 2011.

- 2.3 Press '3' to see the topics within Characteristic "Marital Status".

- 2.3.1 Enter '1' to see the number of people who are Married or Living with a Common-Law Partner in that area in 2011.

- 2.3.2 Enter '2' to see the number of Married and not Separated people in that area in 2011.

- 2.3.3 Enter '3' to see the number of people Living Common-Law in that area in 2011.

- 2.3.4 Enter '4' to see the number of people Not Married and Not Living with a Common-Law Partner in that area in 2011.

- 2.3.5 Enter '5' to see the number of Single people (people who have Never been Legally Married) in that area in 2011.

- 2.3.6 Enter '6' to see the number of Separated people in that area in 2011.

- 2.3.7 Enter '7' to see the number of Divorced people in that area in 2011.

- 2.3.8 Enter '8' to see the number of Widowed people in that area in 2011.

The above code is supposed to print the data pertaining to the prompts entered by the user. However, the code is not functional and prints errors instead.

If you choose look at premade question(P):

The program will print "A former chemistry teacher wants to teach in a city that has the highest incidents of drug possession and production" and break. Should this function work properly, it would print the scenario and load a premade CSV file of the question proposed in the scenario. This is what questionA1.csv, questionA2.csv and questionB1.csv contain.

List of Crimes for Use with questionScript.pl

- Total, all violations
- Total, all Criminal Code violations (including traffic)
- Total, all Criminal Code violations (excluding traffic)
- Total violent Criminal Code violations
- Homicide
- Murder, first degree
- Murder, second degree
- Manslaughter
- Infanticide
- Total other violations causing death
- Criminal negligence causing death
- Other related violations causing death
- Attempted murder
- Sexual assault, level 3, aggravated
- Sexual assault, level 2, weapon or bodily harm
- Sexual assault, level 1
- Total sexual violations against children
- Sexual interference
- Invitation to sexual touching
- Sexual exploitation
- Making sexually explicit material available to children
- Parent or guardian procuring sexual activity: person procured under the age of 16 years
- Parent or guardian procuring sexual activity
- Householder permitting illegal sexual activity: person under the age of 16 years
- Householder permitting prohibited sexual activity
- Luring a child via a computer
- Assault, level 3, aggravated
- Assault, level 2, weapon or bodily harm
- Assault, level 1
- Total assaults against a peace officer
- Total other assaults
- Unlawfully causing bodily harm
- Criminal negligence causing bodily harm
- Other assaults
- Total firearms, use of, discharge, pointing
- Discharge firearm with intent
- Using firearm in commission of offence
- Pointing a firearm
- Total robbery
- Robbery
- Robbery to steal a firearm
- Total forcible confinement or kidnapping
- Forcible confinement or kidnapping

- Kidnapping
- Forcible confinement
- Total abduction
- Abduction under the age 14, not parent or guardian
- Abduction under the age 16
- Removal of children from Canada
- Abduction under the age 14 contravening a custody order
- Abduction under age 14, by parent or guardian
- Extortion
- Criminal harassment
- Uttering threats
- Indecent/Harassing communications
- Total commodification of sexual activity violations
- Obtaining sexual services for consideration
- Obtaining sexual services for consideration from person under 18 years
- Receive material benefit from sexual services
- Receive material benefit from sexual services provided by a person under 18 years
- Procuring
- Procuring - person under 18 years
- Advertising sexual services
- Total other violent violations
- Conspire to commit murder
- Other sexual violations
- Sexual Exploitation of a person with a disability
- Incest
- Corrupting morals of a child
- Anal intercourse
- Bestiality, commit or compel person
- Voyeurism
- Nonconsensual distribution of intimate images
- Trap likely to or causing bodily harm
- Hostage-taking
- Trafficking in persons
- Intimidation of a justice system participant or a journalist
- Intimidation of a non-justice participant
- Explosives causing death or bodily harm
- Arson, disregard for human life
- Other violent violations
- Total property crime violations
- Total breaking and entering
- Breaking and entering
- Breaking and entering to steal a firearm
- Break and enter to steal a firearm from a motor vehicle
- Total possession of stolen property
- Total trafficking in stolen property
- Total theft of motor vehicle
- Total theft over $5,000 (non-motor vehicle)

- Theft over $5,000
- Theft over $5,000 from a motor vehicle
- Shoplifting over $5,000
- Total theft under $5,000 (non-motor vehicle)
- Theft $5,000 or under
- Theft $5,000 or under from a motor vehicle
- Shoplifting $5,000 or under
- Fraud
- Identity theft
- Identity fraud
- Total mischief
- Mischief
- Mischief in relation to cultural property
- Mischief to religious property motivated by hate
- Mischief relating to war memorials
- Arson
- Altering, removing or destroying Vehicle Identification Number (VIN)
- Total other Criminal Code violations
- Counterfeiting
- Total weapons violations
- Offensive weapons, explosives
- Offensive weapons, prohibited
- Offensive weapons, restricted
- Firearm transfers or serial numbers
- Other offensive weapons
- Weapons trafficking
- Weapons possession contrary to order
- Possession of weapons
- Unauthorized importing or exporting of weapons
- Firearms documentation or administration
- Unsafe storage of firearms
- Child pornography
- Making, or distribution of child pornography
- Total prostitution
- Bawdy house
- Living off the avails of prostitution of a person under age 18
- Procuring
- Obtains or communicates with a person under age 18 for purpose of sex
- Other prostitution
- Stopping or impeding traffic for the purpose of offering, providing or obtaining sexual services for consideration
- Disturb the peace
- Total administration of justice violations
- Fail to comply with order
- Escape or helps to escape from lawful custody
- Prisoner unlawfully at large
- Fail to appear
- Breach of probation

- Other violations against the administration of law and justice (Part IV Criminal Code)
- Total other violations
- Betting house
- Gaming house
- Other violations related to gaming and betting
- Common Bawdy House
- Indecent acts
- Corrupting morals
- Obstruct public or peace officer
- Trespass at night
- Utter threats to property or animal
- Advocating genocide
- Public incitement of hatred
- Unauthorized recording of a movie
- Offences against public order (Part II Criminal Code)
- Property or service for terrorist activity
- Freezing of property, disclosure or audit
- Participate in activity of terrorist group
- Facilitate terrorist activity
- Commission or instructing to carry out terrorist activity
- Harbour or conceal terrorist
- Hoax terrorism
- Advocating/Promoting terrorism offence
- Firearms and other offensive weapons (Part III Criminal Code)
- Leaving Canada to participate in activity of terrorist group
- Leaving Canada to facilitate terrorist activity
- Leaving Canada to commit offence for terrorist group
- Leaving Canada to commit offence that is terrorist activity
- Concealing person who carried out terrorist activity that is a terrorism offence for which that person is liable to imprisonment for life
- Concealing person who carried out terrorist activity that is a terrorism offence for which that person is liable to any punishment other than life
- Concealing person who is likely to carry out terrorist activity
- Sexual offences, public morals and disorderly conduct (Part V Criminal Code)
- Invasion of privacy (Part VI Criminal Code)
- Disorderly houses, gaming and betting
- Offences against the person and reputation (Part VIII Criminal Code)
- Offences against rights of property (Part IX Criminal Code)
- Fraudulent transactions relating to contracts and trade (Part X Criminal Code)
- Willful and forbidden acts in respect of certain property (Part XI Criminal Code)
- Offences relating to currency (Part XII Criminal Code)
- Proceeds of crime (Part XII.2 Criminal Code)
- Attempts, conspiracies, accessories (Part XIII Criminal Code)
- Instruct offence for criminal organization

- Commit offence for criminal organization
- Participate in activities of criminal organization
- Recruitment of members by criminal organization
- All other Criminal Code (includes Part XII.1 Criminal Code)
- Total Criminal Code traffic violations
- Total impaired driving
- Impaired operation, causing death
- Impaired operation (drugs), causing death
- Impaired operation, causing bodily harm
- Impaired operation (drugs), causing bodily harm
- Impaired operation of motor vehicle, vessel or aircraft
- Impaired operation (drugs) vehicle, vessel, aircraft
- Impaired operation, failure to provide breath sample
- Failure to comply or refusal (drugs)
- Impaired operation, failure to provide blood sample
- Failure to provide blood sample (drugs)
- Total other Criminal Code traffic violations
- Dangerous operation, causing death
- Dangerous operation, causing bodily harm
- Dangerous operation of motor vehicle, vessel or aircraft
- Dangerous operation evading police, causing death
- Dangerous operation evading police, causing bodily harm
- Dangerous operation of motor vehicle evading police
- Total fail to stop or remain
- Driving while prohibited
- Other Criminal Code traffic violations
- Causing death by criminal negligence while street racing
- Causing bodily harm by criminal negligence while street racing
- Dangerous operation causing death while street racing
- Dangerous operation causing bodily harm while street racing
- Dangerous operation of motor vehicle while street racing
- Total Federal Statute violations
- Total drug violations
- Possession, cannabis
- Possession, cocaine
- Total, possession, other Controlled Drugs and Substances Act drugs
- Heroin, possession
- Other Controlled Drugs and Substances Act, possession
- Methamphetamines (crystal meth), possession
- Methylenedioxyamphetamine (ecstasy), possession
- Total cannabis, trafficking, production or distribution
- Cannabis, trafficking
- Cannabis, importation and exportation
- Cannabis, production
- Total cocaine, trafficking, production or distribution
- Cocaine, trafficking
- Cocaine, importation and exportation
- Cocaine, production

- Total other Controlled Drugs and Substances Act drugs, trafficking, production or distribution
- Heroin, trafficking
- Other Controlled Drugs and Substances Act, trafficking
- Methamphetamines (crystal meth), trafficking
- Methylenedioxyamphetamine (ecstasy), trafficking
- Heroin, importation and exportation
- Other Controlled Drugs and Substances Act, importation and exportation
- Methamphetamines (crystal meth), importation and exportation
- Methylenedioxyamphetamine (ecstasy), importation and exportation
- Heroin, production
- Other Controlled Drugs and Substances Act, production
- Methamphetamines (crystal meth), production
- Methylenedioxyamphetamine (ecstasy), production
- Precursor or equipment (crystal meth, ecstasy)
- Youth Criminal Justice Act
- Total other Federal Statutes
- Bankruptcy Act
- Income Tax Act
- Canada Shipping Act
- Canada Health Act
- Customs Act
- Competition Act
- Excise Act
- Total Immigration and Refugee Protection Act
- Firearms Act
- National Defence Act
- Other federal statutes

List of Cities/Municipalities and their Codes for use with questionScript.pl and censusQuestion.pl

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City Name. . . . . . . . . . . . . . . . . . . . .Code


St. John's, Newfoundland and Labrador . . . . . . . . . . . . . . . 1
Halifax, Nova Scotia. . . . . . . . . . . . . . . . . . . . . . . . 2
Moncton, New Brunswick. . . . . . . . . . . . . . . . . . . . . . . 3
Saint John, New Brunswick . . . . . . . . . . . . . . . . . . . . . 4
Saguenay, Quebec. . . . . . . . . . . . . . . . . . . . . . . . . . 5
Quebec, Quebec* . . . . . . . . . . . . . . . . . . . . . . . . . . 6
Sherbrooke, Quebec. . . . . . . . . . . . . . . . . . . . . . . . . 7
Trois-Rivieres, Quebec* . . . . . . . . . . . . . . . . . . . . . . 8
Montreal, Quebec* . . . . . . . . . . . . . . . . . . . . . . . . . 9
Peterborough, Ontario . . . . . . . . . . . . . . . . . . . . . . 10
Toronto, Ontario. . . . . . . . . . . . . . . . . . . . . . . . . 11
Hamilton, Ontario . . . . . . . . . . . . . . . . . . . . . . . . 12
St. Catharines - Niagara, Ontario*. . . . . . . . . . . . . . . . 13
Kitchener-Cambridge-Waterloo, Ontario . . . . . . . . . . . . . . 14
Brantford, Ontario. . . . . . . . . . . . . . . . . . . . . . . . 15
Guelph, Ontario . . . . . . . . . . . . . . . . . . . . . . . . . 16
London, Ontario . . . . . . . . . . . . . . . . . . . . . . . . . 17
Windsor, Ontario. . . . . . . . . . . . . . . . . . . . . . . . . 18
Barrie, Ontario . . . . . . . . . . . . . . . . . . . . . . . . . 19
Sudbury, Ontario. . . . . . . . . . . . . . . . . . . . . . . . . 20
Thunder Bay, Ontario. . . . . . . . . . . . . . . . . . . . . . . 21
Winnipeg, Manitoba. . . . . . . . . . . . . . . . . . . . . . . . 22
Regina, Saskatchewan. . . . . . . . . . . . . . . . . . . . . . . 23
Saskatoon, Saskatchewan . . . . . . . . . . . . . . . . . . . . . 24
Calgary, Alberta. . . . . . . . . . . . . . . . . . . . . . . . . 25
Edmonton, Alberta . . . . . . . . . . . . . . . . . . . . . . . . 26
Kelowna, British Columbia . . . . . . . . . . . . . . . . . . . . 27
Abbotsford-Mission, British Columbia. . . . . . . . . . . . . . . 28
Vancouver, British Columbia . . . . . . . . . . . . . . . . . . . 29
Victoria, British Columbia. . . . . . . . . . . . . . . . . . . . 30


 * These region codes and names may not work with the current version
of our code, but were intended to.
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