**INTRODUCTION**: The dataset under analysis is the wages data of Canada from 6 different provinces. The data is obtained from the open Canada statistics website. The data shows wages specific to a job and provide data on how much workers make at the regional level. Most of the occupations also have national and provincial wages. The National Occupational Classification determines which occupational groupings are associated with each job in Canada. A minimum, median, and maximum wage estimate are presented for most occupations. The dataset is divided into 4 tables namely:

WAGE\_PER\_PROVINCE: This table has the wages data for each economic region number. It has 9 columns: ER\_CODE, NOC\_CNP, LOW\_WAGE, HIGH\_WAGE, MEDIAN\_WAGE, AVERAGE\_WAGE, DATA\_SOURCE\_ID, REFERENCE\_PERIOD AND REVISION\_DATE. This table has 3 foreign keys: ER\_CODE, NOC\_CNP and DATA\_SOURCE\_ID.

ER\_PER\_PROVINCE: This table displays the economic regions as per province and their economic code. The 3 columns are namely: ER\_CODE, ER\_NAME and PROV.

DATA\_SOURCE: This table mentions the data sources name from where the information has been collected. It has 2 columns namely: DATA\_SOURCE\_ID and DATA\_SOURCE\_NAME.

NOC: This table has the data about the NOC code and their respective NOC titles or job titles. The columns are NOC\_CNP and NOC\_NAME.

**GOAL:** Below are the reasons and objectives of choosing this dataset and what insights can we get observing this data set:

1. To find out the province which has the highest/lowest hourly wage which could give valuable insight to individuals who want to move to province for better wages.
2. To find out the job titles with the highest/lowest hourly wage.
3. To find out the province wise data of average median, average wages.
4. To find out wages as per economic region within a province.
5. To find out which province has the highest median wage.
6. Higher wages in a job title may indicate greater demand or labour shortage of workers in those provinces/economic regions.
7. By looking at the wage differences within provinces we can gain insights about the economic strength. Higher wages indicate growth and development and vice versa.

**DATA ANALYSIS:** Below are the changes I have made to the downloaded dataset:

1. The original data set had more than 37000 rows of data, for analysis purpose I have only taken 652 rows of data.
2. Data of 6 provinces for a few NOC title (job titles) have been kept. All job titles are not covered in the data set. 27 different NOC titles have been kept for data analysis purpose.
3. From the original dataset wages comment column have been removed as it wasn’t providing any extra information related to the data.
4. Rows like low wage and high wage where there were null values have been removed as the data becomes meaningless if wages are not present. Those rows have been removed.

**QUERY 1**

Displaying data for each economic region as per noc code, noc title, province, wages data, reference year and revision date.

Tables used: WAGE\_PER\_PROVINCE, ER\_PER\_PROVINCE, NOC and DATA\_SOURCE

NOTE: This table has 652 rows of data but for display purpose I have shown only 30 rows of data.

|  |
| --- |
| SELECT WP.ER\_CODE, EP.ER\_NAME, EP.PROV AS PROVINCE\_NAME, WP.NOC\_CNP AS NOC\_CODE, NOC.NOC\_TITLE, WP.LOW\_WAGE, WP.HIGH\_WAGE, WP.MEDIAN\_WAGE, WP.AVERAGE\_WAGE, DS.DATA\_SOURCE\_NAME, WP.REFERENCE\_PERIOD, WP.REVISION\_DATE  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  INNER JOIN NOC ON WP.NOC\_CNP = NOC.NOC\_CNP  INNER JOIN DATA\_SOURCE DS ON WP.DATA\_SOURCE\_ID = DS.DATA\_SOURCE\_ID  ORDER BY WP.ER\_CODE  LIMIT 30 |

**OUTPUT 1**

A picture containing text, screenshot, document, number

Description automatically generated

**INSIGHT 1**

These insights can aid in understanding the relationship between wages, occupations, provinces, and economic regions, enabling policymakers, researchers, and businesses to make informed decisions and develop strategies based on the data.

Economic Region Analysis: This analysis can provide insights into regional economic disparities, industry concentrations, and workforce characteristics.

NOC Code Analysis: By analyzing the frequency and distribution of NOC codes, you can gain insights into the types of occupations present in different provinces and economic regions.

Provincial Wages Comparison: By comparing the wages across provinces, you can identify variations in earnings and potential wage gaps between regions. This analysis can be useful for understanding regional differences in economic prosperity and the cost of living.

Data Source Evaluation: Analyzing the different data sources can help assess data reliability, credibility, and potential biases. This analysis is crucial for making informed decisions based on the data.

**QUERY 2**

To find out the lowest wage per hour as province.

TABLES USED: WAGE\_PER\_PROVINCE, ER\_PER\_PROVINCE

|  |
| --- |
| SELECT EP.PROV, MIN(WP.LOW\_WAGE) AS LOWEST\_WAGE\_PER\_PROVINCE  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  GROUP BY EP. PROV  ORDER BY MIN(WP.LOW\_WAGE) ASC |

**OUTPUT 2**

A screenshot of a computer

Description automatically generated with low confidence

**INSIGHT 2**

Provincial Wage Disparities: You can discover wage disparities and variations across regions by comparing the lowest hourly wage across provinces. Areas with lower income levels and potential economic difficulties may be highlighted by this analysis.

Cost of Living: The lowest hourly wage indicates how affordable and expensive it is to live in various provinces. The cost of living may be lower in provinces with lower minimum wages, whereas higher minimum wages may indicate higher living costs.

‘SK’ Saskatchewan province gives the lowest minimum hourly wages and can be more affordable than other provinces.

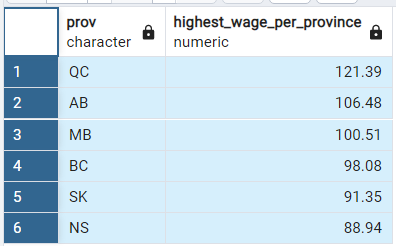
**QUERY 3**

Find out maximum wage rate per hour per province.

TABLES USED: WAGE\_PER\_PROVINCE, ER\_PER\_PROVINCE

|  |
| --- |
| SELECT EP.PROV, MAX(WP.HIGH\_WAGE) AS HIGHEST\_WAGE\_PER\_PROVINCE  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  GROUP BY EP. PROV  ORDER BY MAX(WP.HIGH\_WAGE) DESC |

**OUTPUT 3**



**INSIGHT 3**

According to this output ‘QC’ Quebec province gives highest hourly wage.

Economic Strength: provinces with higher hourly maximum wages may indicate more robust economies and industries with better-paying jobs. Provinces with robust job markets and potential areas of economic growth may be highlighted by this insight.

Labor Market Demand: The province-by-province maximum wage rates can provide insight into higher-paying industries and occupations. Understanding the demand in the labor market and locating industries with lucrative employment opportunities can benefit from this data.

**QUERY 4**

Find out lowest wages as per economic region.

TABLES USED: WAGE\_PER\_PROVINCE, ER\_PER\_PROVINCE

|  |
| --- |
| SELECT EP.ER\_NAME, EP.PROV, MIN(WP.LOW\_WAGE) AS LOWEST\_WAGE\_PER\_ER  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  GROUP BY EP.ER\_NAME, EP.PROV  ORDER BY MIN(WP.LOW\_WAGE) ASC |

The same query has been written using ‘CTE’ Common Table Expressions.

|  |
| --- |
| WITH WAGE\_DATA AS (  SELECT EP.ER\_NAME, EP.PROV, MIN(WP.LOW\_WAGE) AS LOWEST\_WAGE\_PER\_ER  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  GROUP BY EP.ER\_NAME, EP.PROV  )  SELECT WAGE\_DATA.ER\_NAME, WAGE\_DATA.PROV, WAGE\_DATA.LOWEST\_WAGE\_PER\_ER  FROM WAGE\_DATA  ORDER BY WAGE\_DATA.LOWEST\_WAGE\_PER\_ER ASC |

**OUTPUT 4**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | er\_name | prov | lowest\_wage\_per\_er | | Prince Albert | SK | 13 | | Saskatchewan | SK | 13 | | Saskatoon--Biggar | SK | 13 | | Regina--Moose Mountain | SK | 13 | | Swift Current--Moose Jaw | SK | 13 | | Manitoba | MB | 13.5 | | Winnipeg | MB | 13.5 | | North Shore | NS | 13.6 | | Southern | NS | 13.6 | | Nova Scotia | NS | 13.6 | | Cape Breton | NS | 13.6 | | Halifax | NS | 14 | | North Central | MB | 14.25 | | LanaudiÃ¨re | QC | 14.25 | | Southeast | MB | 14.25 | | ChaudiÃ¨re-Appalaches | QC | 14.25 | | Capitale-Nationale | QC | 14.25 | | Mauricie | QC | 14.25 | | Centre-du-QuÃ©bec | QC | 14.25 | | Estrie | QC | 14.25 | | Bas-Saint-Laurent | QC | 14.25 | | QuÃ©bec | QC | 14.25 | | Laurentides | QC | 14.25 | | South Central | MB | 15 | | Southwest | MB | 15 | | MontÃ©rÃ©gie | QC | 15.5 | | Saguenay--Lac-Saint-Jean | QC | 15.88 | | Abitibi-TÃ©miscamingue | QC | 16 | | Outaouais | QC | 16 | | GaspÃ©sie--ÃŽles-de-la-Madeleine | QC | 16 | | MontrÃ©al | QC | 16 | | Laval | QC | 16 | | Camrose--Drumheller | AB | 16.25 | | Banff--Jasper--Rocky Mountain House | AB | 16.25 | | Red Deer | AB | 16.25 | | British Columbia | BC | 16.5 | | Kootenay | BC | 16.5 | | Cariboo | BC | 16.5 | | Alberta | AB | 16.5 | | Thompson--Okanagan | BC | 16.5 | | Lower Mainland | BC | 16.7 | | Vancouver Island and Coast | BC | 17 | | Calgary | AB | 17.31 | | Lethbridge--Medicine Hat | AB | 17.5 | | Annapolis Valley | NS | 17.51 | | Edmonton | AB | 17.8 | | Parklands | MB | 18 | | North Coast | BC | 18 | | Athabasca--Grande Prairie--Peace River | AB | 18 | | Nechako | BC | 18 | | North | MB | 18 | | Nord-du-QuÃ©bec | QC | 18.27 | | CÃ´te-Nord | QC | 18.27 | | Wood Buffalo--Cold Lake | AB | 19 | | Interlake | MB | 22.12 | | Northeast | BC | 32 | | Yorkton--Melville | SK | 37.11 | |

**INSIGHT 4**

This data gives us the lowest hourly wage as per economic region. All the economic regions in Saskatchewan have the same hourly wage i.e., CAD13 except for ‘Interlake’ in SK which gives the CAD37.11 whereas other economic regions of other provinces doesn’t have the same hourly wage throughout.

Concentration of Industries: It is possible to gain insight into the industries that are prevalent in each economic region by analyzing the lowest wages by region. It enables policymakers and businesses to concentrate on developing diversification strategies and promoting higher-paying industries by assisting in the identification of economic sectors that may offer lower-paying jobs.

**QUERY 5**

Find out highest wages as per economic region.

TABLES USED: WAGE\_PER\_PROVINCE, ER\_PER\_PROVINCE

|  |
| --- |
| SELECT EP.ER\_NAME, EP.PROV, MAX(WP.HIGH\_WAGE) AS HIGHEST\_WAGE\_PER\_ER  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  GROUP BY EP.ER\_NAME, EP.PROV  ORDER BY MAX(WP.HIGH\_WAGE) DESC |

**OUTPUT 5**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | er\_name | prov | highest\_wage\_per\_er | | Laval | QC | 121.39 | | Athabasca--Grande Prairie--Peace River | AB | 106.48 | | Calgary | AB | 106.48 | | Alberta | AB | 106.48 | | MontrÃ©al | QC | 102.94 | | Edmonton | AB | 102 | | Winnipeg | MB | 100.51 | | Lower Mainland | BC | 98.08 | | Manitoba | MB | 97.11 | | MontÃ©rÃ©gie | QC | 96.4 | | Laurentides | QC | 96.29 | | British Columbia | BC | 96.15 | | Capitale-Nationale | QC | 96.15 | | Vancouver Island and Coast | BC | 96.15 | | Thompson--Okanagan | BC | 96.15 | | QuÃ©bec | QC | 96.15 | | LanaudiÃ¨re | QC | 93.41 | | Outaouais | QC | 93.41 | | Saskatoon--Biggar | SK | 91.35 | | Saskatchewan | SK | 91.35 | | Banff--Jasper--Rocky Mountain House | AB | 91.35 | | Regina--Moose Mountain | SK | 91.35 | | Camrose--Drumheller | AB | 91.35 | | Kootenay | BC | 89.98 | | Halifax | NS | 88.94 | | Lethbridge--Medicine Hat | AB | 87.41 | | Mauricie | QC | 87.41 | | Bas-Saint-Laurent | QC | 87.41 | | Abitibi-TÃ©miscamingue | QC | 87.41 | | CÃ´te-Nord | QC | 87.41 | | Nova Scotia | NS | 87.18 | | North Coast | BC | 86.81 | | Saguenay--Lac-Saint-Jean | QC | 86.54 | | North Central | MB | 86.54 | | ChaudiÃ¨re-Appalaches | QC | 86.54 | | Centre-du-QuÃ©bec | QC | 86.54 | | Southeast | MB | 86.54 | | North Shore | NS | 82.42 | | Northeast | BC | 76.92 | | Cariboo | BC | 76.92 | | Red Deer | AB | 76.13 | | Wood Buffalo--Cold Lake | AB | 75 | | Interlake | MB | 72.12 | | Cape Breton | NS | 71.79 | | Yorkton--Melville | SK | 71 | | Prince Albert | SK | 71 | | Estrie | QC | 69.71 | | Annapolis Valley | NS | 69.62 | | Swift Current--Moose Jaw | SK | 67.31 | | South Central | MB | 66.67 | | Southwest | MB | 66.67 | | Nechako | BC | 64.9 | | Nord-du-QuÃ©bec | QC | 64.1 | | Southern | NS | 63.18 | | North | MB | 62.5 | | Parklands | MB | 62.5 | | GaspÃ©sie--ÃŽles-de-la-Madeleine | QC | 38.46 | |

**INSIGHT 5**

This data shows us that ‘Laval’ in QC has the highest hourly wage of CAD121.39.

Economic Strength: Stronger economies and industries with higher-paying jobs are reflected in regions with higher maximum wages. This knowledge can assist in locating potential areas of economic expansion, higher levels of productivity, and robust job markets.

**QUERY 6**

To find out top 15 NOC title earns the highest wage per hour.

TABLES USED: WAGE\_PER\_PROVINCE, NOC, ER\_PER\_PROVINCE

|  |
| --- |
| SELECT NOC.NOC\_TITLE, EP.PROV AS PROVINCE, MAX(WP.HIGH\_WAGE) AS HIGHEST\_WAGE\_AS\_PER\_NOC\_TITLE  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN NOC ON WP.NOC\_CNP = NOC.NOC\_CNP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  GROUP BY NOC.NOC\_TITLE, EP.PROV  ORDER BY MAX(WP.HIGH\_WAGE) DESC  LIMIT 15 |

**OUTPUT 6**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | noc\_title | province | highest\_wage\_as\_per\_noc\_title | | Senior managers - trade, broadcasting and other services, n.e.c. | QC | 121.39 | | Senior government managers and officials | AB | 106.48 | | Engineering managers | AB | 103.88 | | Financial managers | AB | 101.97 | | Senior managers - trade, broadcasting and other services, n.e.c. | MB | 100.51 | | Senior managers - financial, communications and other business services | BC | 98.08 | | Human resources managers | AB | 96.15 | | Architecture and science managers | QC | 96.15 | | Senior managers - financial, communications and other business services | AB | 96.15 | | Senior managers - financial, communications and other business services | QC | 96 | | Insurance, real estate and financial brokerage managers | SK | 91.35 | | Engineering managers | MB | 91.35 | | Corporate sales managers | AB | 91.35 | | Senior managers - trade, broadcasting and other services, n.e.c. | BC | 89.98 | | Senior managers - financial, communications and other business services | SK | 89.02 | |

**INSIGHT 6**

The above data tells us the highest paying job title according to province.

In this case Senior managers - trade, broadcasting and other services in Quebec earns the highest.

High-Paying Occupations: The 15 most highly compensated NOC positions are listed in the table. This understanding aids in the identification of specific occupations associated with higher earning potential.

**QUERY 7**

To find the lowest 5 wage as per noc title in a province.

TABLES USED: WAGE\_PER\_PROVINCE, NOC, ER\_PER\_PROVINCE

|  |
| --- |
| SELECT NOC.NOC\_TITLE, EP.PROV AS PROVINCE, MIN(WP.LOW\_WAGE) AS LOWEST\_WAGE\_AS\_PER\_NOC\_TITLE  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN NOC ON WP.NOC\_CNP = NOC.NOC\_CNP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  GROUP BY NOC.NOC\_TITLE, EP.PROV  ORDER BY MIN(WP.LOW\_WAGE) ASC  LIMIT 5 |

**OUTPUT 7**

A screenshot of a computer

Description automatically generated with medium confidence

**INSIGHT 7**

Low-Paying Occupations: The lowest five wages for each NOC title in a particular province are shown in the table. With this knowledge, it is possible to identify occupations with lower potential earnings in that province.

Restaurant and food service managers in SK province earns the lowest hourly wage.

**QUERY 8**

To COUNT economic region that has median wage above CAD45.00

TABLES USED: WAGE\_PER\_PROVINCE, ER\_PER\_PROVINCE

|  |
| --- |
| SELECT EP.ER\_CODE, EP.ER\_NAME, COUNT(WP.MEDIAN\_WAGE) AS COUNT\_OF\_MEDIAN\_WAGE\_ABOVE\_$45  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  WHERE WP.MEDIAN\_WAGE >= 45.00  GROUP BY EP.ER\_CODE, EP.ER\_NAME  ORDER BY COUNT\_OF\_MEDIAN\_WAGE\_ABOVE\_$45 DESC |

**OUTPUT 8**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | er\_code | er\_name | count\_of\_median\_wage\_above\_$45 | | ER48 | Alberta | 14 | | ER4830 | Calgary | 14 | | ER59 | British Columbia | 13 | | ER4870 | Athabasca--Grande Prairie--Peace River | 13 | | ER24 | QuÃ©bec | 13 | | ER5920 | Lower Mainland | 13 | | ER2440 | MontrÃ©al | 12 | | ER2435 | MontÃ©rÃ©gie | 12 | | ER46 | Manitoba | 11 | | ER2420 | Capitale-Nationale | 11 | | ER4860 | Edmonton | 11 | | ER2445 | Laval | 11 | | ER5910 | Vancouver Island and Coast | 11 | | ER5930 | Thompson--Okanagan | 10 | | ER12 | Nova Scotia | 10 | | ER2450 | LanaudiÃ¨re | 10 | | ER4650 | Winnipeg | 10 | | ER4710 | Regina--Moose Mountain | 9 | | ER2455 | Laurentides | 9 | | ER1250 | Halifax | 9 | | ER4730 | Saskatoon--Biggar | 9 | | ER47 | Saskatchewan | 9 | | ER2460 | Outaouais | 8 | | ER2425 | ChaudiÃ¨re-Appalaches | 7 | | ER4610 | Southeast | 6 | | ER1220 | North Shore | 5 | | ER2475 | Saguenay--Lac-Saint-Jean | 5 | | ER4820 | Camrose--Drumheller | 5 | | ER5950 | Cariboo | 4 | | ER4660 | Interlake | 4 | | ER1230 | Annapolis Valley | 4 | | ER2433 | Centre-du-QuÃ©bec | 4 | | ER4640 | North Central | 3 | | ER2470 | Mauricie | 3 | | ER4630 | Southwest | 3 | | ER5940 | Kootenay | 3 | | ER5980 | Northeast | 2 | | ER1210 | Cape Breton | 2 | | ER4850 | Red Deer | 2 | | ER4810 | Lethbridge--Medicine Hat | 2 | | ER2465 | Abitibi-TÃ©miscamingue | 2 | | ER2415 | Bas-Saint-Laurent | 2 | | ER4840 | Banff--Jasper--Rocky Mountain House | 2 | | ER4680 | North | 1 | | ER4620 | South Central | 1 | | ER2430 | Estrie | 1 | | ER5960 | North Coast | 1 | | ER4720 | Swift Current--Moose Jaw | 1 | | ER4740 | Yorkton--Melville | 1 | | ER4880 | Wood Buffalo--Cold Lake | 1 | | ER4750 | Prince Albert | 1 | |

**INSIGHT 8**

Alberta has the most number of jobs which has a more than CAD45 wage.

Median wage is the mid value in a pool of wages. That means in Alberta in Economic Region 48 and Calgary have 14 jobs have 50% people making more than CAD45.

High-Median Wage Regions: The number of economic regions with median wages above CAD 45.00 is shown in the table. This insight focuses on areas with possibly better economic conditions and relatively higher wage levels.

**QUERY 9**

To COUNT economic region has average wage above 50.00

TABLES USED: WAGE\_PER\_PROVINCE, ER\_PER\_PROVINCE

|  |
| --- |
| SELECT EP.ER\_CODE, EP.ER\_NAME, COUNT(WP.AVERAGE\_WAGE) AS COUNT\_OF\_AVERAGE\_WAGE\_ABOVE\_$50  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  WHERE WP.AVERAGE\_WAGE >= 50.00  GROUP BY EP.ER\_CODE, EP.ER\_NAME  ORDER BY COUNT\_OF\_AVERAGE\_WAGE\_ABOVE\_$50 DESC |

**OUTPUT 9**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | er\_code | er\_name | count\_of\_average\_wage\_above\_$50 | | ER4870 | Athabasca--Grande Prairie--Peace River | 11 | | ER48 | Alberta | 11 | | ER4830 | Calgary | 11 | | ER2440 | MontrÃ©al | 10 | | ER4860 | Edmonton | 10 | | ER4730 | Saskatoon--Biggar | 9 | | ER47 | Saskatchewan | 9 | | ER24 | QuÃ©bec | 9 | | ER59 | British Columbia | 9 | | ER2445 | Laval | 8 | | ER4710 | Regina--Moose Mountain | 8 | | ER5920 | Lower Mainland | 8 | | ER2435 | MontÃ©rÃ©gie | 7 | | ER5910 | Vancouver Island and Coast | 7 | | ER2450 | LanaudiÃ¨re | 7 | | ER2420 | Capitale-Nationale | 7 | | ER2455 | Laurentides | 7 | | ER2425 | ChaudiÃ¨re-Appalaches | 5 | | ER12 | Nova Scotia | 5 | | ER46 | Manitoba | 5 | | ER5930 | Thompson--Okanagan | 5 | | ER2460 | Outaouais | 5 | | ER4820 | Camrose--Drumheller | 4 | | ER1250 | Halifax | 4 | | ER4650 | Winnipeg | 4 | | ER2433 | Centre-du-QuÃ©bec | 3 | | ER2475 | Saguenay--Lac-Saint-Jean | 3 | | ER4810 | Lethbridge--Medicine Hat | 2 | | ER5940 | Kootenay | 2 | | ER4840 | Banff--Jasper--Rocky Mountain House | 2 | | ER4640 | North Central | 2 | | ER5980 | Northeast | 2 | | ER5950 | Cariboo | 2 | | ER2470 | Mauricie | 2 | | ER4610 | Southeast | 1 | | ER5960 | North Coast | 1 | | ER1220 | North Shore | 1 | | ER4850 | Red Deer | 1 | | ER4880 | Wood Buffalo--Cold Lake | 1 | | ER4620 | South Central | 1 | | ER4630 | Southwest | 1 | | ER4750 | Prince Albert | 1 | | ER4740 | Yorkton--Melville | 1 | | ER4720 | Swift Current--Moose Jaw | 1 | | ER2465 | Abitibi-TÃ©miscamingue | 1 | | ER2415 | Bas-Saint-Laurent | 1 | |

**INSIGHT 9**

Overall, we can observe than Alberta has the economic regions where for most noc titles have average page more than CAD50.

Regions with High Average Wages: The number of economic regions with an average wage above CAD 50.00 is shown in the table. This knowledge aids in the identification of regions with possibly better economic conditions for workers and relatively higher wage levels.

**QUERY 10**

Display the TOP 10 noc titles with the most difference in the hourly wages.

TABLES USED: WAGE\_PER\_PROVINCE, NOC

|  |
| --- |
| SELECT NOC.NOC\_TITLE, WP.LOW\_WAGE, WP.HIGH\_WAGE,  WP.HIGH\_WAGE - WP.LOW\_WAGE AS DIFFERENCE\_IN\_HIGH\_LOW\_WAGE  FROM WAGE\_PER\_PROVINCE WP  JOIN NOC ON WP.NOC\_CNP = NOC.NOC\_CNP  GROUP BY NOC.NOC\_TITLE, WP.HIGH\_WAGE, WP.LOW\_WAGE  ORDER BY DIFFERENCE\_IN\_HIGH\_LOW\_WAGE DESC  LIMIT 10 |

**OUTPUT 10**

A screenshot of a computer

Description automatically generated with low confidence

**INSIGHT 10**

The difference between high and low wages provides insights into the wage dispersion within each NOC title. A larger difference can indicate a wider range of salaries and potential income disparities within specific job categories.

**QUERY 11**

Display province wise wages rate -average low wage, average high wage, average median wage, average of avg wage

TABLES USED: WAGE\_PER\_PROVINCE, ER\_PER\_PROVINCE

|  |
| --- |
| SELECT EP.PROV, AVG(WP.LOW\_WAGE) AS AVG\_LOW\_WAGE, AVG(WP.HIGH\_WAGE) AS AVG\_HIGH\_WAGE, AVG(WP.MEDIAN\_WAGE) AS AVG\_MEDIAN\_WAGE, AVG(WP.AVERAGE\_WAGE) AS AVG\_AVG\_WAGE  FROM WAGE\_PER\_PROVINCE WP  JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  GROUP BY EP.PROV  ORDER BY EP.PROV |

**OUTPUT 11**

A screenshot of a computer

Description automatically generated with low confidence

**INSIGHT 11**

Regional Economic Competitiveness: The provincial wage rates can shed light on the competitiveness of various regions. It's possible that skilled workers, businesses, and investors will be more likely to invest in provinces with higher average wage rates, which will help the economy grow and develop.

The above data shows the average low wage according to province and we can identify the general level of compensation. This insight can be useful for understanding the baseline salary expectations in each province.

**QUERY 12**

Showing NOC data as per data source

TABLES USED: WAGE\_PER\_PROVINCE, NOC, DATA\_SOURCE

|  |
| --- |
| SELECT WP.NOC\_CNP, NOC.NOC\_TITLE, DS.DATA\_SOURCE\_NAME  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN NOC ON WP.NOC\_CNP = NOC.NOC\_CNP  INNER JOIN DATA\_SOURCE DS ON WP.DATA\_SOURCE\_ID = DS.DATA\_SOURCE\_ID  GROUP BY WP.NOC\_CNP, NOC.NOC\_TITLE, DS.DATA\_SOURCE\_NAME  ORDER BY DS.DATA\_SOURCE\_NAME |

**OUTPUT 12**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | noc\_cnp | noc\_title | data\_source\_name | | NOC\_0411 | Government managers - health and social policy development and program administration | Alberta Wage and Salary Survey | | NOC\_0511 | Library, archive, museum and art gallery managers | Alberta Wage and Salary Survey | | NOC\_0512 | Managers - publishing, motion pictures, broadcasting and performing arts | Alberta Wage and Salary Survey | | NOC\_0513 | Recreation, sports and fitness program and service directors | Alberta Wage and Salary Survey | | NOC\_0631 | Restaurant and food service managers | Alberta Wage and Salary Survey | | NOC\_0651 | Managers in customer and personal services, n.e.c. | Alberta Wage and Salary Survey | | NOC\_0015 | Senior managers - trade, broadcasting and other services, n.e.c. | Employment Insurance Survey Data | | NOC\_0512 | Managers - publishing, motion pictures, broadcasting and performing arts | Employment Insurance Survey Data | | NOC\_0821 | Managers in agriculture | Employment Insurance Survey Data | | NOC\_0012 | Senior government managers and officials | Labour Force Survey | | NOC\_0013 | Senior managers - financial, communications and other business services | Labour Force Survey | | NOC\_0111 | Financial managers | Labour Force Survey | | NOC\_0112 | Human resources managers | Labour Force Survey | | NOC\_0121 | Insurance, real estate and financial brokerage managers | Labour Force Survey | | NOC\_0124 | Advertising, marketing and public relations managers | Labour Force Survey | | NOC\_0131 | Telecommunication carriers managers | Labour Force Survey | | NOC\_0211 | Engineering managers | Labour Force Survey | | NOC\_0212 | Architecture and science managers | Labour Force Survey | | NOC\_0213 | Computer and information systems managers | Labour Force Survey | | NOC\_0311 | Managers in health care | Labour Force Survey | | NOC\_0411 | Government managers - health and social policy development and program administration | Labour Force Survey | | NOC\_0511 | Library, archive, museum and art gallery managers | Labour Force Survey | | NOC\_0512 | Managers - publishing, motion pictures, broadcasting and performing arts | Labour Force Survey | | NOC\_0513 | Recreation, sports and fitness program and service directors | Labour Force Survey | | NOC\_0601 | Corporate sales managers | Labour Force Survey | | NOC\_0621 | Retail and wholesale trade managers | Labour Force Survey | | NOC\_0631 | Restaurant and food service managers | Labour Force Survey | | NOC\_0651 | Managers in customer and personal services, n.e.c. | Labour Force Survey | | NOC\_0731 | Managers in transportation | Labour Force Survey | | NOC\_0821 | Managers in agriculture | Labour Force Survey | | NOC\_2171 | Information systems analysts and consultants | Labour Force Survey | | NOC\_2172 | Database analysts and data administrators | Labour Force Survey | | NOC\_2173 | Software engineers and designers | Labour Force Survey | | NOC\_2174 | Computer programmers and interactive media developers | Labour Force Survey | | NOC\_0015 | Senior managers - trade, broadcasting and other services, n.e.c. | Small Area Estimation | | NOC\_0121 | Insurance, real estate and financial brokerage managers | Small Area Estimation | | NOC\_0311 | Managers in health care | Small Area Estimation | | NOC\_0512 | Managers - publishing, motion pictures, broadcasting and performing arts | Small Area Estimation | | NOC\_0601 | Corporate sales managers | Small Area Estimation | | NOC\_0651 | Managers in customer and personal services, n.e.c. | Small Area Estimation | | NOC\_0731 | Managers in transportation | Small Area Estimation | | NOC\_0823 | Managers in aquaculture | Small Area Estimation | |

**INSIGHT 12**

We can get an understanding of the data sources from where the data is obtained for different Noc titles. It's possible that each data source has its own focus, scope, and features. To gain a more nuanced comprehension of the NOC data, it is possible to gain insight into the perspectives or areas of emphasis covered by various sources by analyzing the data source column.

**VIEW 1**

Create a view to show all data combined as per each economic region, data source, reference period and revision date.

NOTE: This table has 652 rows of data but for display purpose I have shown only 30 rows of data.

TABLES USED: WAGE\_PER\_PROVINCE, ER\_PER\_PROVINCE, NOC, DATA\_SOURCE

|  |
| --- |
| CREATE OR REPLACE VIEW ALL\_DETAILS AS  SELECT WP.ER\_CODE, EP.ER\_NAME, EP.PROV AS PROVINCE\_NAME, WP.NOC\_CNP AS NOC\_CODE, NOC.NOC\_TITLE, WP.LOW\_WAGE, WP.HIGH\_WAGE, WP.MEDIAN\_WAGE, WP.AVERAGE\_WAGE, DS.DATA\_SOURCE\_NAME, WP.REFERENCE\_PERIOD, WP.REVISION\_DATE  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  INNER JOIN NOC ON WP.NOC\_CNP = NOC.NOC\_CNP  INNER JOIN DATA\_SOURCE DS ON WP.DATA\_SOURCE\_ID = DS.DATA\_SOURCE\_ID  ORDER BY WP.ER\_CODE |

**OUTPUT 1**

A picture containing text, screenshot, document, number

Description automatically generated

**INSIGHT 1**

This table gives us the combined data for all economic region, NOC titles, data sources and wages corresponding to them.

These insights can aid in understanding the relationship between wages, occupations, provinces, and economic regions, enabling policymakers, researchers, and businesses to make informed decisions and develop strategies based on the data.

Economic Region Analysis: This analysis can provide insights into regional economic disparities, industry concentrations, and workforce characteristics.

NOC Code Analysis: By analyzing the frequency and distribution of NOC codes, you can gain insights into the types of occupations present in different provinces and economic regions.

Provincial Wages Comparison: By comparing the wages across provinces, you can identify variations in earnings and potential wage gaps between regions. This analysis can be useful for understanding regional differences in economic prosperity and the cost of living.

Data Source Evaluation: Analyzing the different data sources can help assess data reliability, credibility, and potential biases. This analysis is crucial for making informed decisions based on the data.

**VIEW 2**

Create a view to show average wages as per noc title

TABLES USED: WAGE\_PER\_PROVINCE, NOC

|  |
| --- |
| CREATE OR REPLACE VIEW AVERAGE\_WAGES\_BY\_NOC\_TITLE AS  SELECT NOC.NOC\_TITLE, TRUNC(AVG(WP.LOW\_WAGE),2) AS AVG\_LOW\_WAGE,  TRUNC(AVG(WP.HIGH\_WAGE),2) AS AVG\_HIGH\_WAGE, TRUNC(AVG(WP.HIGH\_WAGE - WP.LOW\_WAGE),2) AS DIFFERENCE\_IN\_HIGH\_LOW\_WAGE  FROM WAGE\_PER\_PROVINCE WP  JOIN NOC ON WP.NOC\_CNP = NOC.NOC\_CNP  GROUP BY NOC.NOC\_TITLE |

**OUTPUT 2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | noc\_title | avg\_low\_wage | avg\_high\_wage | difference\_in\_high\_low\_wage | | Retail and wholesale trade managers | 18.69 | 64.16 | 45.47 | | Software engineers and designers | 30.51 | 71.11 | 40.6 | | Computer programmers and interactive media developers | 23.17 | 57.7 | 34.53 | | Managers - publishing, motion pictures, broadcasting and performing arts | 22.61 | 65.11 | 42.49 | | Information systems analysts and consultants | 28.63 | 61.89 | 33.25 | | Restaurant and food service managers | 15.64 | 38.34 | 22.69 | | Recreation, sports and fitness program and service directors | 21.36 | 48.19 | 26.83 | | Managers in customer and personal services, n.e.c. | 17.3 | 54.37 | 37.07 | | Senior government managers and officials | 33.88 | 80.46 | 46.58 | | Managers in agriculture | 16.77 | 38.15 | 21.37 | | Managers in health care | 29.82 | 65.51 | 35.68 | | Corporate sales managers | 29.45 | 78.64 | 49.18 | | Managers in aquaculture | 20.44 | 41.81 | 21.37 | | Insurance, real estate and financial brokerage managers | 30.56 | 75.69 | 45.12 | | Library, archive, museum and art gallery managers | 25.89 | 67.61 | 41.72 | | Government managers - health and social policy development and program administration | 42.29 | 69.88 | 27.59 | | Engineering managers | 37 | 81.58 | 44.57 | | Telecommunication carriers managers | 35.97 | 68.46 | 32.49 | | Senior managers - trade, broadcasting and other services, n.e.c. | 21.75 | 82.79 | 61.04 | | Database analysts and data administrators | 22.26 | 55.35 | 33.09 | | Senior managers - financial, communications and other business services | 31.45 | 90.37 | 58.91 | | Financial managers | 30.16 | 74.45 | 44.28 | | Managers in transportation | 26.52 | 66.91 | 40.38 | | Architecture and science managers | 34.56 | 83.14 | 48.58 | | Human resources managers | 33.62 | 71.1 | 37.47 | | Advertising, marketing and public relations managers | 27.49 | 74.61 | 47.12 | | Computer and information systems managers | 37.18 | 74.26 | 37.07 | |

**INSIGHT 2**

The difference between high and low wages provides insights into the wage dispersion within each NOC title. A larger difference can indicate a wider range of salaries and potential income disparities within specific job categories.

**VIEW 3**

Create a view for lowest wage per province per economic region.

TABLES USED: WAGE\_PER\_PROVINCE, ER\_PER\_PROVINCE

|  |
| --- |
| CREATE OR REPLACE VIEW LOWEST\_WAGE\_PER\_PROVINCE AS  SELECT EP.ER\_CODE, EP.PROV, MIN(WP.LOW\_WAGE) AS LOWEST\_WAGE\_PER\_ER  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  GROUP BY EP.ER\_CODE, EP.PROV  ORDER BY LOWEST\_WAGE\_PER\_ER |

**OUTPUT 3**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | er\_code | prov | lowest\_wage\_per\_er | | ER4720 | SK | 13 | | ER4710 | SK | 13 | | ER4730 | SK | 13 | | ER4750 | SK | 13 | | ER47 | SK | 13 | | ER4650 | MB | 13.5 | | ER46 | MB | 13.5 | | ER1240 | NS | 13.6 | | ER1210 | NS | 13.6 | | ER1220 | NS | 13.6 | | ER12 | NS | 13.6 | | ER1250 | NS | 14 | | ER2415 | QC | 14.25 | | ER2425 | QC | 14.25 | | ER4640 | MB | 14.25 | | ER2470 | QC | 14.25 | | ER2430 | QC | 14.25 | | ER2450 | QC | 14.25 | | ER2433 | QC | 14.25 | | ER2455 | QC | 14.25 | | ER24 | QC | 14.25 | | ER4610 | MB | 14.25 | | ER2420 | QC | 14.25 | | ER4620 | MB | 15 | | ER4630 | MB | 15 | | ER2435 | QC | 15.5 | | ER2475 | QC | 15.88 | | ER2440 | QC | 16 | | ER2410 | QC | 16 | | ER2465 | QC | 16 | | ER2460 | QC | 16 | | ER2445 | QC | 16 | | ER4820 | AB | 16.25 | | ER4850 | AB | 16.25 | | ER4840 | AB | 16.25 | | ER48 | AB | 16.5 | | ER5930 | BC | 16.5 | | ER59 | BC | 16.5 | | ER5940 | BC | 16.5 | | ER5950 | BC | 16.5 | | ER5920 | BC | 16.7 | | ER5910 | BC | 17 | | ER4830 | AB | 17.31 | | ER4810 | AB | 17.5 | | ER1230 | NS | 17.51 | | ER4860 | AB | 17.8 | | ER5970 | BC | 18 | | ER4680 | MB | 18 | | ER4670 | MB | 18 | | ER4870 | AB | 18 | | ER5960 | BC | 18 | | ER2480 | QC | 18.27 | | ER2490 | QC | 18.27 | | ER4880 | AB | 19 | | ER4660 | MB | 22.12 | | ER5980 | BC | 32 | | ER4740 | SK | 37.11 | |

**INSIGHT 3**

5 ER Code in SK has the lowest wage per hour with CAD13 per hour.

Provincial Wage Disparities: You can discover wage disparities and variations across regions by comparing the lowest hourly wage across provinces. Areas with lower income levels and potential economic difficulties may be highlighted by this analysis.

Cost of Living: The lowest hourly wage indicates how affordable and expensive it is to live in various provinces. The cost of living may be lower in provinces with lower minimum wages, whereas higher minimum wages may indicate higher living costs.

**VIEW 4**

Create a view with descending order of highest wage for each noc title for first 30 columns.

TABLES USED: WAGE\_PER\_PROVINCE, NOC, ER\_PER\_PROVINCE

|  |
| --- |
| CREATE OR REPLACE VIEW HIGHEST\_WAGE\_PER\_NOC\_TITLE AS  SELECT NOC.NOC\_TITLE, EP.PROV AS PROVINCE, MAX(WP.HIGH\_WAGE) AS HIGHEST\_WAGE\_AS\_PER\_NOC\_TITLE  FROM WAGE\_PER\_PROVINCE WP  INNER JOIN NOC ON WP.NOC\_CNP = NOC.NOC\_CNP  INNER JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  GROUP BY NOC.NOC\_TITLE, EP.PROV  ORDER BY MAX(WP.HIGH\_WAGE) DESC  LIMIT 30 |

**OUTPUT 4**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | noc\_title | province | highest\_wage\_as\_per\_noc\_title | | Senior managers - trade, broadcasting and other services, n.e.c. | QC | 121.39 | | Senior government managers and officials | AB | 106.48 | | Engineering managers | AB | 103.88 | | Financial managers | AB | 101.97 | | Senior managers - trade, broadcasting and other services, n.e.c. | MB | 100.51 | | Senior managers - financial, communications and other business services | BC | 98.08 | | Human resources managers | AB | 96.15 | | Senior managers - financial, communications and other business services | AB | 96.15 | | Architecture and science managers | QC | 96.15 | | Senior managers - financial, communications and other business services | QC | 96 | | Engineering managers | MB | 91.35 | | Corporate sales managers | AB | 91.35 | | Insurance, real estate and financial brokerage managers | SK | 91.35 | | Senior managers - trade, broadcasting and other services, n.e.c. | BC | 89.98 | | Senior managers - financial, communications and other business services | SK | 89.02 | | Senior managers - financial, communications and other business services | MB | 88.94 | | Engineering managers | NS | 88.94 | | Insurance, real estate and financial brokerage managers | NS | 87.18 | | Senior government managers and officials | BC | 86.81 | | Corporate sales managers | QC | 86.54 | | Financial managers | SK | 84.13 | | Software engineers and designers | SK | 82.5 | | Senior managers - financial, communications and other business services | NS | 82.42 | | Human resources managers | SK | 81.73 | | Computer and information systems managers | SK | 81.73 | | Managers in health care | QC | 80.77 | | Government managers - health and social policy development and program administration | AB | 80.25 | | Human resources managers | BC | 80.22 | | Managers in health care | AB | 79.87 | | Engineering managers | QC | 79.81 | |

**INSIGHT 4**

Senior managers - trade, broadcasting and other services in Quebec makes the highest hourly wage.

Occupational Demand and Value: Based on their wage levels, the viewpoints to occupations that are in high demand or highly valued in the labor market. People can use this information to make well-informed career decisions and learn about occupations that might need specific strategies for workforce development or recruitment.

**VIEW 5**

Create a view for wage comparison by noc title for Computer and information systems managers, Computer programmers and interactive media developers, Software engineers and designers, Information systems analysts and consultants, ‘Database analysts and data administrators and Engineering managers in the province of Alberta.

TABLES USED: WAGE\_PER\_PROVINCE, NOC, ER\_PER\_PROVINCE

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| --- |
| CREATE VIEW WAGE\_COMPARISON\_BY\_NOC\_TITLE AS  SELECT DISTINCT NOC.NOC\_TITLE, EP.ER\_CODE, WP.LOW\_WAGE, WP.Median\_Wage, WP.HIGH\_WAGE  FROM NOC  JOIN WAGE\_PER\_PROVINCE WP ON WP.NOC\_CNP = NOC.NOC\_CNP  JOIN ER\_PER\_PROVINCE EP ON WP.ER\_CODE = EP.ER\_CODE  WHERE NOC.NOC\_TITLE  IN ('Computer and information systems managers',  'Computer programmers and interactive media developers',  'Software engineers and designers','Information systems analysts and consultants',  'Database analysts and data administrators','Engineering managers')  AND EP.PROV = 'AB' |

**OUTPUT 5**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | noc\_title | er\_code | low\_wage | median\_wage | high\_wage | | Computer and information systems managers | ER48 | 33.65 | 64.9 | 76.92 | | Computer and information systems managers | ER4820 | 33.65 | 64.9 | 76.92 | | Computer and information systems managers | ER4830 | 33.65 | 64.42 | 76.92 | | Computer and information systems managers | ER4860 | 52 | 65.93 | 79.33 | | Computer and information systems managers | ER4870 | 33.65 | 64.9 | 76.92 | | Computer programmers and interactive media developers | ER48 | 22.12 | 39.83 | 64.9 | | Computer programmers and interactive media developers | ER4810 | 22.12 | 39.83 | 64.9 | | Computer programmers and interactive media developers | ER4830 | 22.12 | 39.83 | 69.71 | | Computer programmers and interactive media developers | ER4860 | 22.12 | 39.83 | 64.9 | | Computer programmers and interactive media developers | ER4870 | 22.12 | 39.83 | 64.9 | | Database analysts and data administrators | ER48 | 21.63 | 41.24 | 55.77 | | Database analysts and data administrators | ER4830 | 21.63 | 41.24 | 55.77 | | Database analysts and data administrators | ER4860 | 25 | 43.27 | 51.28 | | Database analysts and data administrators | ER4870 | 21.63 | 41.24 | 55.77 | | Engineering managers | ER48 | 38.46 | 61.7 | 102 | | Engineering managers | ER4830 | 22.48 | 66.11 | 103.88 | | Engineering managers | ER4860 | 38.46 | 61.7 | 102 | | Engineering managers | ER4870 | 38.46 | 61.7 | 102 | | Information systems analysts and consultants | ER48 | 27.88 | 47.96 | 67.31 | | Information systems analysts and consultants | ER4820 | 27.88 | 47.96 | 67.31 | | Information systems analysts and consultants | ER4830 | 25.96 | 48.08 | 76.92 | | Information systems analysts and consultants | ER4850 | 27.88 | 47.96 | 67.31 | | Information systems analysts and consultants | ER4860 | 30.24 | 48.08 | 56.73 | | Information systems analysts and consultants | ER4870 | 27.88 | 47.96 | 67.31 | | Information systems analysts and consultants | ER4880 | 42.31 | 50 | 73.08 | | Software engineers and designers | ER48 | 23.75 | 46.15 | 72.12 | | Software engineers and designers | ER4830 | 23 | 46.15 | 70.91 | | Software engineers and designers | ER4860 | 32 | 46.15 | 72.12 | | Software engineers and designers | ER4870 | 23.75 | 46.15 | 72.12 | |

**INSIGHT 5**

Engineering Managers in ER 4830 have a high median and high wage followed by Computer and information systems managers who have almost similar median and high wages in all ER.

This output gives us Regional Wage Patterns: Regional wage patterns can be found by comparing wages across provinces for each NOC title. People who are thinking about job opportunities in particular provinces or policymakers and businesses who are trying to understand wage competition and attract talent to regions might find this information useful.

Career Planning: People can use the wage comparison view to make informed decisions about their careers in the various NOC titles. It sheds light on wage disparities, the potential earning potential of various provinces, and regions with higher demand for these occupations or better pay.