**CineCube Report**This is a report on the Avg of hours\_per\_week when education is fixed to 'Post-Secondary', work is fixed to 'With-Pay' and occupation is fixed to 'Blue-collar'. We will start by answering the original query and we complement the result with contextualization and detailed analyses.

**Answer to the original question**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Assoc | Post-grad | Some-college | University |
|  | Gov | 40.31 | 34.00 | 38.85 | 39.24 |
|  | Private | 41.89 | 39.05 | 41.28 | 40.99 |
|  | Self-emp | 43.26 | 41.75 | 43.22 | 45.91 |

Here, you can see the answer of the original query. You have specified education to be equal to 'Post-Secondary', work to be equal to 'With-Pay', and occupation to be equal to 'Blue-collar'. We report on Avg of hours\_per\_week grouped by education at level 2, and work at level 1 .  
You can observe the results in this table. We highlight the largest values with red and the lowest values with blue color.   
Column Post-grad has 2 of the 3 lowest values.  
Row Self-emp has 3 of the 3 highest values.  
Row Gov has 2 of the 3 lowest values.  
Row Private has 1 of the 3 lowest values.

**Act I: Putting results in context**In this series of slides we put the original result in context, by comparing the behavior of its defining values with the behavior of values that are similar to them.

**Assessing the behavior of education**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Summary for education | **Post-Secondary** | Without-Post-Secondary |
|  | Gov | **39.11** | 40.08 |
|  | Private | **41.33** | 41.24 |
|  | Self-emp | **43.75** | 43.77 |

In this graphic, we put the original request in context by comparing the value 'Post-Secondary' for education at level 3 with its sibling values. We highlight the reference cells with bold, the highest value with red and the lowest value with blue color. We calculate the Avg of hours\_per\_week while fixing education at level 4 to be equal to ''ALL'', work at level 2 to be equal to ''With-Pay'', and occupation at level 1 to be equal to ''Blue-collar''.  
Compared to its sibling we observe that in 1 out of 3 cases Post-Secondary has higher value than Without-Post-Secondary.  
In 2 out of 3 cases Post-Secondary has lower value than Without-Post-Secondary.

**Assessing the behavior of work**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Summary for work | Assoc | Post-grad | Some-college | University |
|  | **With-Pay** | **41.83** | **38.90** | **41.25** | **41.39** |

In this graphic, we put the original request in context by comparing the value 'With-Pay' for work at level 2 with its sibling values. We highlight the reference cells with bold, the highest value with red and the lowest value with blue color. We calculate the Avg of hours\_per\_week while fixing education at level 3 to be equal to ''Post-Secondary'', work at level 3 to be equal to ''ALL'', and occupation at level 1 to be equal to ''Blue-collar''.

**Assessing the behavior of occupation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Summary for occupation | **Blue-collar** | Other | white-collar |
|  | Gov | **39.11** | 42.23 | 41.19 |
|  | Private | **41.33** | 35.52 | 41.81 |
|  | Self-emp | **43.75** | 50.03 | 46.32 |

In this graphic, we put the original request in context by comparing the value 'Blue-collar' for occupation at level 1 with its sibling values. We highlight the reference cells with bold, the highest values with red and the lowest values with blue color. We calculate the Avg of hours\_per\_week while fixing education at level 3 to be equal to ''Post-Secondary'', work at level 2 to be equal to ''With-Pay'', and occupation at level 2 to be equal to ''ALL''.  
Compared to its sibling we observe the following:  
In 1 out of 3 cases Blue-collar has higher value than Other.  
In 2 out of 3 cases Blue-collar has lower value than Other.  
In 3 out of 3 cases Blue-collar has lower value than white-collar.

**Assessing the behavior of occupation**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Summary for occupation | Assoc | Post-grad | Some-college | University |
|  | **Blue-collar** | **41.83** | **38.90** | **41.25** | **41.39** |
|  | Other | 42.02 | 45.36 | 37.30 | 42.11 |
|  | white-collar | 41.36 | 45.17 | 39.06 | 43.82 |

In this graphic, we put the original request in context by comparing the value 'Blue-collar' for occupation at level 1 with its sibling values. We highlight the reference cells with bold, the highest values with red and the lowest values with blue color. We calculate the Avg of hours\_per\_week while fixing education at level 3 to be equal to ''Post-Secondary'', work at level 2 to be equal to ''With-Pay'', and occupation at level 2 to be equal to ''ALL''.  
Compared to its sibling we observe the following:  
In 1 out of 4 cases Blue-collar has a higher value than Other.  
In 3 out of 4 cases Blue-collar has a lower value than Other.  
In 2 out of 4 cases Blue-collar has a higher value than white-collar.  
In 2 out of 4 cases Blue-collar has a lower value than white-collar.

**Act II: Explaining results**In this series of slides we will present a detailed analysis of the values involved in the result of the original query. To this end, we drill-down the hierarchy of grouping levels of the result to one level of aggregation lower, whenever this is possible.

**Drilling down the Rows of the Original Result**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | *Gov* |  | Assoc | Post-grad | Some-college | University |
|  |  | Federal-gov | 40.46 (26) | 35.33 (6) | 39.02 (59) | 41.40 (20) |
|  |  | Local-gov | 39.88 (34) | 47.00 (1) | 41.72 (72) | 41.26 (27) |
|  |  | State-gov | 40.89 (18) | 28.75 (4) | 34.23 (47) | 32.73 (15) |
|  | *Private* |  |  |  |  |  |
|  |  | Private | 41.89 (642) | 39.05 (56) | 41.28 (1622) | 40.99 (492) |
|  | *Self-emp* |  |  |  |  |  |
|  |  | Self-emp-inc | 46.11 (9) | 43.33 (3) | 50.84 (31) | 47.11 (19) |
|  |  | Self-emp-not-inc | 42.73 (49) | 41.38 (13) | 41.71 (156) | 45.49 (55) |

In this slide, we expand dimension work by drilling down from level 1 to level 0. For each cell we show both the Avg of hours\_per\_week and the number of tuples that correspond to it in parentheses. We highlight the 6 lowest values in blue and the 6 largest in red color.  
Some interesting findings include:  
Column Post-grad has 2 of the 6 highest values.  
Column University has 2 of the 6 highest values.  
Column Post-grad has 3 of the 6 lowest values.

**Drilling down the Columns of the Original Result**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | *Assoc* |  | Gov | Private | Self-emp |
|  |  | Assoc-acdm | 38.36 (25) | 41.97 (219) | 42.31 (26) |
|  |  | Assoc-voc | 41.23 (53) | 41.85 (423) | 44.03 (32) |
|  | *Post-grad* |  |  |  |  |
|  |  | Doctorate | 20.00 (1) | 46.67 (3) | 47.50 (2) |
|  |  | Masters | 35.40 (10) | 38.62 (53) | 40.93 (14) |
|  | *Some-college* |  |  |  |  |
|  |  | Some-college | 38.85 (178) | 41.28 (1622) | 43.22 (187) |
|  | *University* |  |  |  |  |
|  |  | Bachelors | 39.24 (62) | 41.05 (479) | 45.39 (70) |
|  |  | Prof-school | - | 38.77 (13) | 55.00 (4) |

In this slide, we expand dimension education by drilling down from level 2 to level 1. For each cell we show both the Avg of hours\_per\_week and the number of tuples that correspond to it in parentheses. We highlight the 5 lowest values in blue and the 5 largest in red color.  
Some interesting findings include:  
Column Self-emp has 4 of the 5 highest values.  
Column Gov has 3 of the 5 lowest values.

**Summary**-In this slide we summarize our findings.  
-Concerning the original query, some interesting findings include:  
-Column Post-grad has 2 of the 3 lowest values.  
-Row Self-emp has 3 of the 3 highest values.  
-Row Gov has 2 of the 3 lowest values.  
-Row Private has 1 of the 3 lowest values.  
-  
-  
-First, we tried to put the original result in context, by comparing its defining values with similar ones.  
-When we compared Post-Secondary to its siblings, grouped by education and work, we observed the following:  
-In 1 out of 3 cases Post-Secondary has higher value than Without-Post-Secondary.  
-In 2 out of 3 cases Post-Secondary has lower value than Without-Post-Secondary.  
-When we compared Blue-collar to its siblings, grouped by occupation and work, we observed the following:  
-  
-In 1 out of 3 cases Blue-collar has higher value than Other.  
-In 2 out of 3 cases Blue-collar has lower value than Other.  
-In 3 out of 3 cases Blue-collar has lower value than white-collar.  
-When we compared Blue-collar to its siblings, grouped by education and occupation, we observed the following:  
-  
-In 1 out of 4 cases Blue-collar has a higher value than Other.  
-In 3 out of 4 cases Blue-collar has a lower value than Other.  
-In 2 out of 4 cases Blue-collar has a higher value than white-collar.  
-In 2 out of 4 cases Blue-collar has a lower value than white-collar.  
-  
-Then we analyzed the results by drilling down one level in the hierarchy.  
-When we drilled down work, we observed the following facts:  
-  
-Column Post-grad has 2 of the 6 highest values.  
-Column University has 2 of the 6 highest values.  
-Column Post-grad has 3 of the 6 lowest values.  
-When we drilled down education, we observed the following facts:  
-  
-Column Self-emp has 4 of the 5 highest values.  
-Column Gov has 3 of the 5 lowest values.