**CineCube Report**This is a report on the Avg of hours\_per\_week when education is fixed to 'Post-Secondary' and work is fixed to 'With-Pay'. 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 | 40.73 | 43.58 | 38.38 | 42.14 |
|  | Private | 41.06 | 45.19 | 38.73 | 43.06 |
|  | Self-emp | 46.68 | 47.24 | 45.70 | 46.61 |

Here, you can see the answer of the original query. You have specified education to be equal to 'Post-Secondary', and work to be equal to 'With-Pay'. 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 Some-college 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 | **41.12** | 38.97 |
|  | Private | **41.06** | 39.40 |
|  | Self-emp | **46.39** | 44.84 |

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'', and work at level 2 to be equal to ''With-Pay''.  
Compared to its sibling we observe that in 3 out of 3 cases Post-Secondary has higher value than Without-Post-Secondary.

**Assessing the behavior of work**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Summary for work | Assoc | Post-grad | Some-college | University |
|  | **With-Pay** | **41.62** | **44.91** | **39.41** | **43.44** |
|  | Without-pay | 50.00 | - | 35.33 | - |

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'', and work at level 3 to be equal to ''ALL''.  
Compared to its sibling we observe that in 1 out of 4 cases With-Pay has a higher value than Without-pay.  
In 1 out of 4 cases With-Pay has a lower value than Without-pay.  
In 2 out of 4 cases Without-pay has null value.

**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 | 41.15 (93) | 43.86 (80) | 40.31 (251) | 43.38 (233) |
|  |  | Local-gov | 41.33 (171) | 43.96 (362) | 40.14 (385) | 42.34 (499) |
|  |  | State-gov | 39.09 (87) | 42.93 (249) | 34.73 (319) | 40.82 (297) |
|  | *Private* |  |  |  |  |  |
|  |  | Private | 41.06 (1713) | 45.19 (1035) | 38.73 (5016) | 43.06 (3702) |
|  | *Self-emp* |  |  |  |  |  |
|  |  | Self-emp-inc | 48.68 (72) | 53.05 (110) | 49.31 (223) | 49.91 (338) |
|  |  | Self-emp-not-inc | 45.88 (178) | 43.39 (166) | 44.03 (481) | 44.44 (517) |

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 Assoc has 2 of the 6 highest values.  
Column Post-grad has 2 of the 6 highest values.  
Column Some-college has 4 of the 6 lowest values.

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | *Assoc* |  | Gov | Private | Self-emp |
|  |  | Assoc-acdm | 39.91 (182) | 40.87 (720) | 45.49 (105) |
|  |  | Assoc-voc | 41.61 (169) | 41.20 (993) | 47.55 (145) |
|  | *Post-grad* |  |  |  |  |
|  |  | Doctorate | 46.53 (124) | 49.05 (172) | 47.22 (79) |
|  |  | Masters | 42.93 (567) | 44.42 (863) | 47.25 (197) |
|  | *Some-college* |  |  |  |  |
|  |  | Some-college | 38.38 (955) | 38.73 (5016) | 45.70 (704) |
|  | *University* |  |  |  |  |
|  |  | Bachelors | 41.56 (943) | 42.71 (3455) | 46.23 (646) |
|  |  | Prof-school | 48.40 (86) | 47.96 (247) | 47.78 (209) |

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 Private has 2 of the 5 highest values.  
Column Self-emp has 2 of the 5 highest values.  
Column Private has 3 of the 5 lowest values.

**Summary**-In this slide we summarize our findings.  
-Concerning the original query, some interesting findings include:  
-Column Some-college 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.  
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-  
-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 3 out of 3 cases Post-Secondary has higher value than Without-Post-Secondary.  
-When we compared With-Pay to its siblings, grouped by education and work, we observed the following:  
-In 1 out of 4 cases With-Pay has a higher value than Without-pay.  
-In 1 out of 4 cases With-Pay has a lower value than Without-pay.  
-In 2 out of 4 cases Without-pay has null value.  
-  
-Then we analyzed the results by drilling down one level in the hierarchy.  
-When we drilled down work, we observed the following facts:  
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-Column Assoc has 2 of the 6 highest values.  
-Column Post-grad has 2 of the 6 highest values.  
-Column Some-college has 4 of the 6 lowest values.  
-When we drilled down education, we observed the following facts:  
-  
-Column Private has 2 of the 5 highest values.  
-Column Self-emp has 2 of the 5 highest values.  
-Column Private has 3 of the 5 lowest values.