| present-- browse-- identify | present-- locate-- identify | present-- explore-- identify | present-- explore-- identify | present-- exploresummarize |
| :---: | :---: | :---: | :---: | :---: |
| Find elements belonging to a specific set | Find sets containing a specific element | Find elements based on their set memberships | Find elements with a specific set membership degree | Filter out elements based on their set membership degrees |
| Find all fruits | What category(s) do(es) apple belong to ? | Which element is green and red? | Which element belongs to 3 categories? | Hide element(s) that belong(s) to more than $\qquad$ 1 categories |
| present-- browsesummarize | produce-- -- | present-- look up-- identify | discover-- browsecomparison | present-- look upcomparison |
| Filter out elements based on their set memberships | Create a new set that contains certain element | Find attribute values of a certain element | Find the distribution of an attribute in a certain set or subset <br> Find out the price | Compare the attribute values of sets or set intersections |
| Hide element(s) that is both green and fruit | delicious, put apple and orange inside | Find out the price of apple |  | What's the most expensive fruit? |
|  | astosylog |  |  |  |


| discover-- browse-comparison | produce-- -- | present-- browse-comparison | discover-- browse/explore-summary | discover-- browse/explore-summary |
| :---: | :---: | :---: | :---: | :---: |
| Analyze the set memberships for elements having certain attribute | Create a new set out of elements having certain attribute values | Find the number of sets in the set family | Analyze exclusion relations | Analyze intersection relations |
|  | Add a category of |  | How many categories |  |
| that are more expensive | elements that are more |  | relationship? |  |
| than 4 dollars belong to the same category? | expensive than 5 dollars inside of this category. | are there? | ABtosv1014 | are intersect with other categories? |
| ABtosvorit | Astrosvio12 | ABTDSVV1013 |  | vi015 |


| present-- browse?look up?-- <br> summary | present-- lookup-- summary | present-- lookup-- summary | present-- explore-- summary | discover-- browse/explore-summary |
| :---: | :---: | :---: | :---: | :---: |
| Find intersections between $k$ sets | Find sets involved in certain intersection | Find set intersections of a specific set | Find the set with largest pairwise set intersection | Analyze set\&set intersection cardinalities |
| What are the elements that is both fruit and vegetable? | Which category share common element with red? | What category(s) does fruit intersect with? | Which category has intersected with most number of categories? | What 's the number of unique elements in each category? |



