Item 344

git_comments:

- 1. TODO(BEAM-10570): Consider a pythonsdk logical type.
- 2. Before PEP 468, these are randomly ordered. At least provide deterministic behavior here. pylint: disable=dict-items-not-iterating
- 3. type: typing.Union[str, callable] type: typing.Union[callable, CombineFn] type: str
- 4. type: typing.Union[str, callable] type: typing.Union[str, callable]
- 5. pylint: disable=dict-items-not-iterating
- 6. [0], [-1, 1] [-2] [2]

git_commits:

1. summary: Add relational GroupBy transform to Python. (#11963) message: Add relational GroupBy transform to Python. (#11963)

github_issues:

github_issues_comments:

github_pulls:

1. **title:** Add relational GroupBy transform to Python.

```
body: ----- Thank you for your contribution! Follow this checklist to help us incorporate your contribution quickly and
easily: - [ ] [**Choose reviewer(s)**](https://beam.apache.org/contribute/#make-your-change) and mention them in a comment (`R: @username`). - [ ] Format the pull request title like `[BEAM-XXX] Fixes bug in ApproximateQuantiles`, where you replace `BEAM-XXX`
with the appropriate JIRA issue, if applicable. This will automatically link the pull request to the issue. - [ ] Update `CHANGES.md` with
noteworthy changes. - [] If this contribution is large, please file an Apache [Individual Contributor License Agreement]
(https://www.apache.org/licenses/icla.pdf). See the [Contributor Guide](https://beam.apache.org/contribute) for more tips on [how to make
review process smoother](https://beam.apache.org/contribute/#make-reviewers-job-easier). Post-Commit Tests Status (on master branch) -
```

------ Lang | SDK | Apex | Dataflow | Flink | Gearpump | Samza | Spark --- | --- | --- | --- | --- | --- | Go | [![Build Status] (https://builds.apache.org/job/beam_PostCommit_Go/lastCompletedBuild/badge/icon)] (https://builds.apache.org/job/beam_PostCommit_Go/lastCompletedBuild/) | --- | --- | [![Build Status] (https://builds.apache.org/job/beam_PostCommit_Go_VR_Flink/lastCompletedBuild/badge/icon)] (https://builds.apache.org/job/beam_PostCommit_Go_VR_Flink/lastCompletedBuild/) | --- | --- | [![Build Status] (https://builds.apache.org/job/beam_PostCommit_Go_VR_Spark/lastCompletedBuild/badge/icon)] (https://builds.apache.org/job/beam_PostCommit_Go_VR_Spark/lastCompletedBuild/) Java | [![Build Status] (https://builds.apache.org/job/beam_PostCommit_Java/lastCompletedBuild/badge/icon)] (https://builds.apache.org/job/beam_PostCommit_Java/lastCompletedBuild/) | [![Build Status] (https://builds.apache.org/job/beam_PostCommit_Java_ValidatesRunner_Apex/lastCompletedBuild/badge/icon)] (https://builds.apache.org/job/beam_PostCommit_Java_ValidatesRunner_Apex/lastCompletedBuild/) | [![Build Status] $(https://builds.apache.org/job/beam_PostCommit_Java_ValidatesRunner_Dataflow/lastCompletedBuild/badge/icon)] \\$ (https://builds.apache.org/job/beam_PostCommit_Java_ValidatesRunner_Dataflow/lastCompletedBuild/)

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(https://builds.apache.org/job/beam_PostCommit_XVR_Spark/lastCompletedBuild/) Pre-Commit Tests Status (on master branch) --------
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(https://builds.apache.org/job/beam_PreCommit_Website_Cron/lastCompletedBuild/) Portable | --- | [![Build Status]
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(https://builds.apache.org/job/beam_PreCommit_Portable_Python_Cron/lastCompletedBuild/) | --- | --- See [.test-infra/jenkins/README]
(https://github.com/apache/beam/blob/master/.test-infra/jenkins/README.md) for trigger phrase, status and link of all Jenkins jobs.
```

github_pulls_comments:

- 1. CC: @TheNeuralBit
- 2. R: @TheNeuralBit This is ready for review.
- 3. I've refactored this to use named tuples rather than rows. PTAL.
- 4. Thanks. Filed a bug and added a TODO about a Python SDK logical type. I'll look at the inference separately.
- 5. Run Python PreCommit
- 6. :sdks:python:test-suites:dataflow:py2:preCommitIT_streaming is unrelated.

github_pulls_reviews:

- 1. ```suggestion beam.Map(lambda v: (expr(v), v)) | beam.GroupByKey() ```
- 2. Is this a fallback for when a Row uses types that we don't support in Python schemas? I worry about this since it makes it tricky for a user to tell when a PCollection can be used in an ExternalTransform that uses rows. Are there some specific types that we need to add coverage for?
- 3. I had this problem with the NamedTuple used in an external transform's output PCollection, I solved it there by making a custom `__reduce__` function that rebuilds from the proto-encoded schema:
 - https://github.com/apache/beam/blob/80de47655c90594eead2f51eece206e8c4fe0227/sdks/python/apache_beam/typehints/schemas.py#L210-L225 (A TODO is fine as well, just wanted to point that out in case it's helpful)
- 4. ```suggestion # TODO(BEAM-7372): Use {**a, **b} syntax once Python 2 is gone. ```
- 5. Will issubclass actually raise an AttributeError? Curious what causes this
- 6. I'm pretty sure I did see this. (Maybe it was missing `__mro__` or something?)
- 7. Well, it's also there to handle the case where we simply don't know what the type is. I'll see if I can re-work this to use named tuples (thanks for the idea about `__reduce__`).
- 8. ```suggestion but provides several conveniences, e.g. ```
- 9. Ah I see. I'd rather not have this escape hatch if we can avoid it, but I can imagine it would be frustrating for users who don't care about using Rows xlang if we just refuse to make a RowCoder for them. Perhaps we should make `named_fields_to_schema` wrap unknown type hints in a "pythonsdk" logical type that uses fast primitives coder. Then we can give a better error message if/when a xlang issue arises. If you just add a TODO here I can take that action. When running locally I noticed that this is only needed for your tests because we can't infer a type for `sign=x // abs(x) if x else 0` and fallback to `Any`. Just curious is it possible to fix the inference for that function? It seems like we should be able to.

jira_issues:

jira_issues_comments: