Using Git Collaboratively

`libgeometry` Repository
(GitHub)

Commits

Initial Commit

`point.py`

```
class Point:

    def __init__(self, x, y):
        self.x = x
        self.y = y
```

libgeometry Repository
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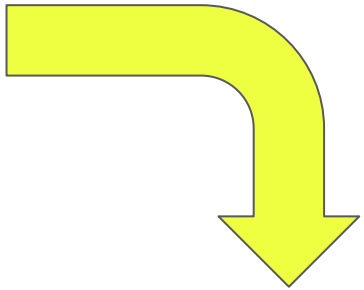

Repository
(Developer A's computer)

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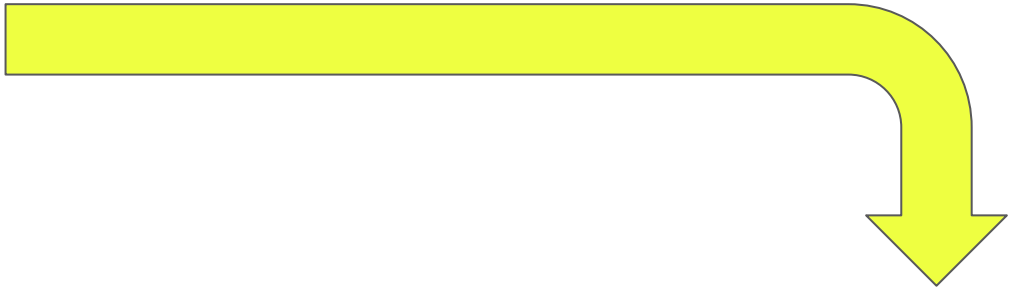
git clone



libgeometry Repository
(Developer A's computer)

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class Point:

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libgeometry Repository
(Developer B's computer)

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Added __str__

`point.py`

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class Point:

    def __init__(self, x, y):
        self.x = x
        self.y = y

    def __str__(self):
        ...
```

`libgeometry` Repository
(Developer B's computer)

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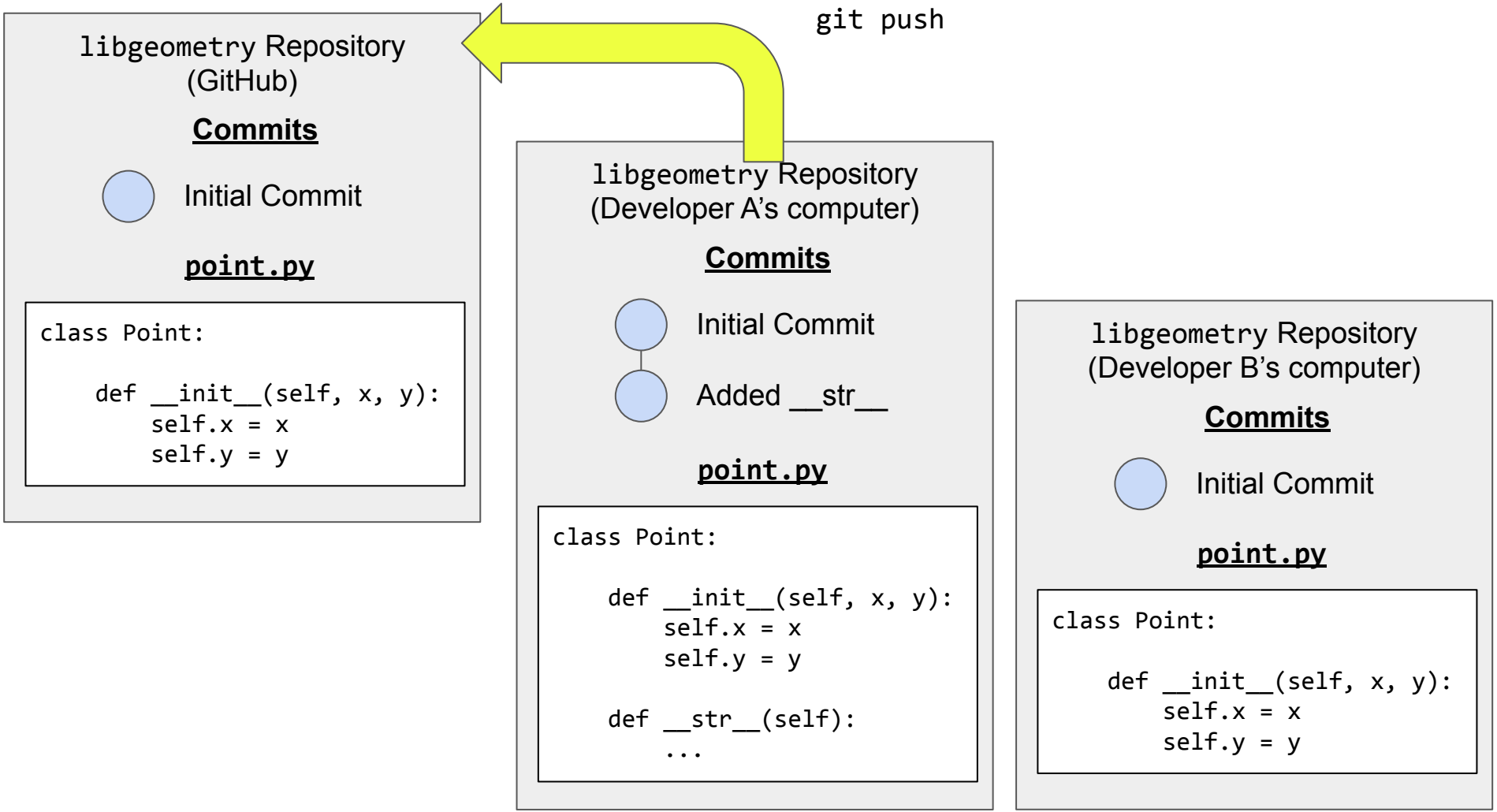
git push
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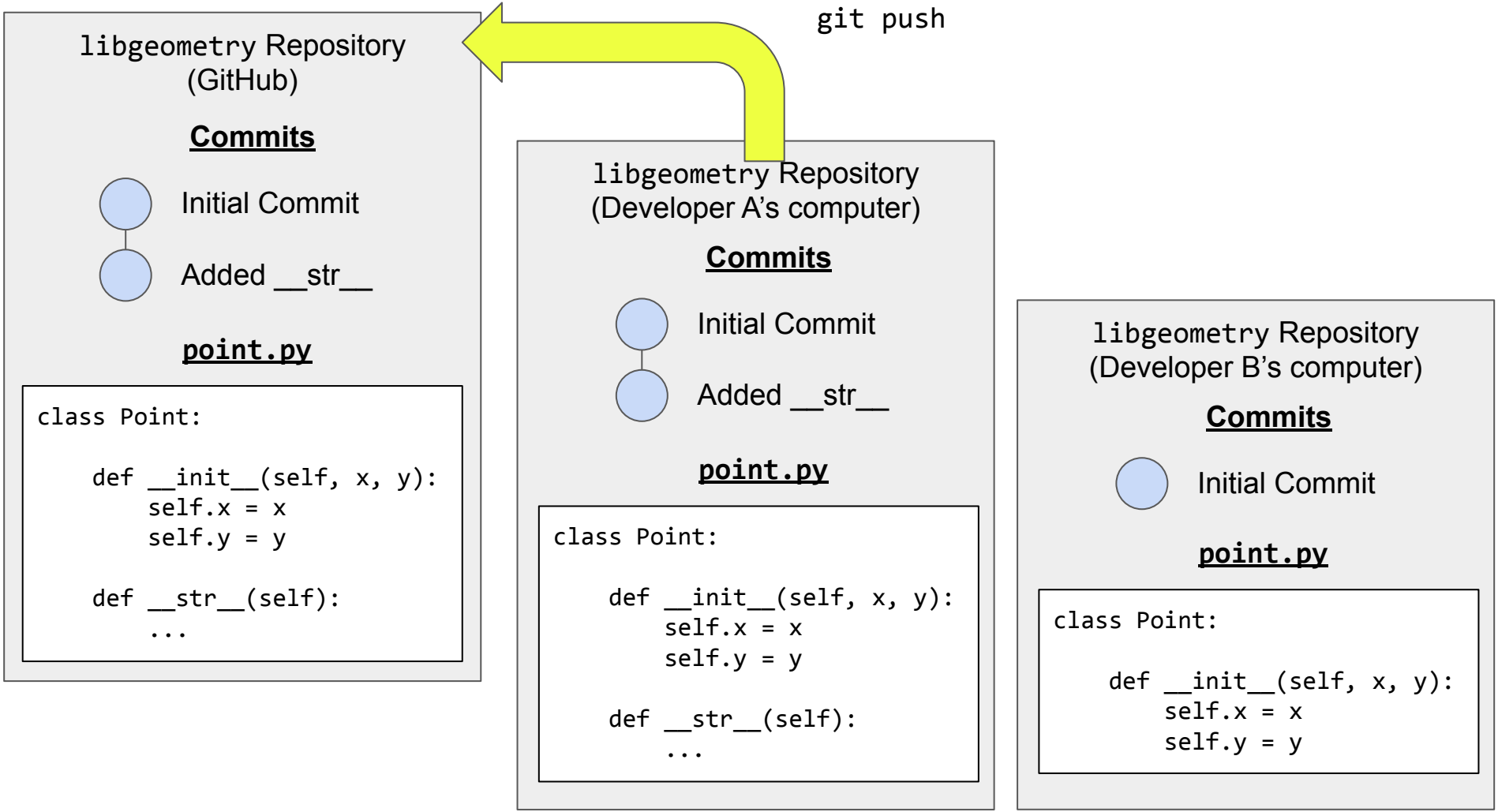
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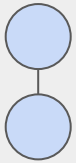
`libgeometry` Repository
(GitHub)

Commits



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`libgeometry` Repository
(Developer A's computer)

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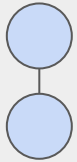

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`libgeometry` Repository
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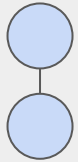


Initial Commit

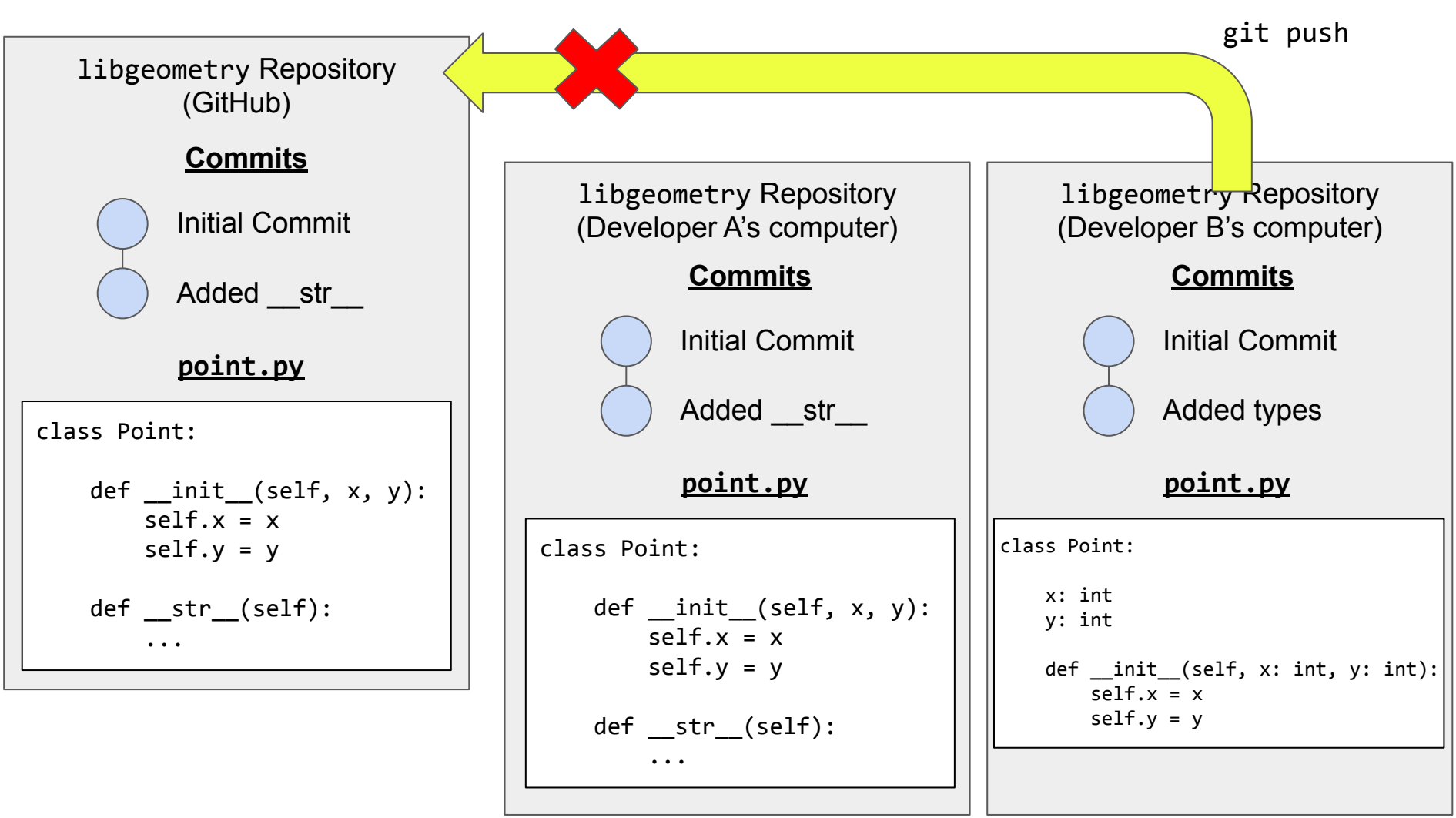
Added types

point.py

```
class Point:

    x: int
    y: int

    def __init__(self, x: int, y: int):
        self.x = x
        self.y = y
```


git push
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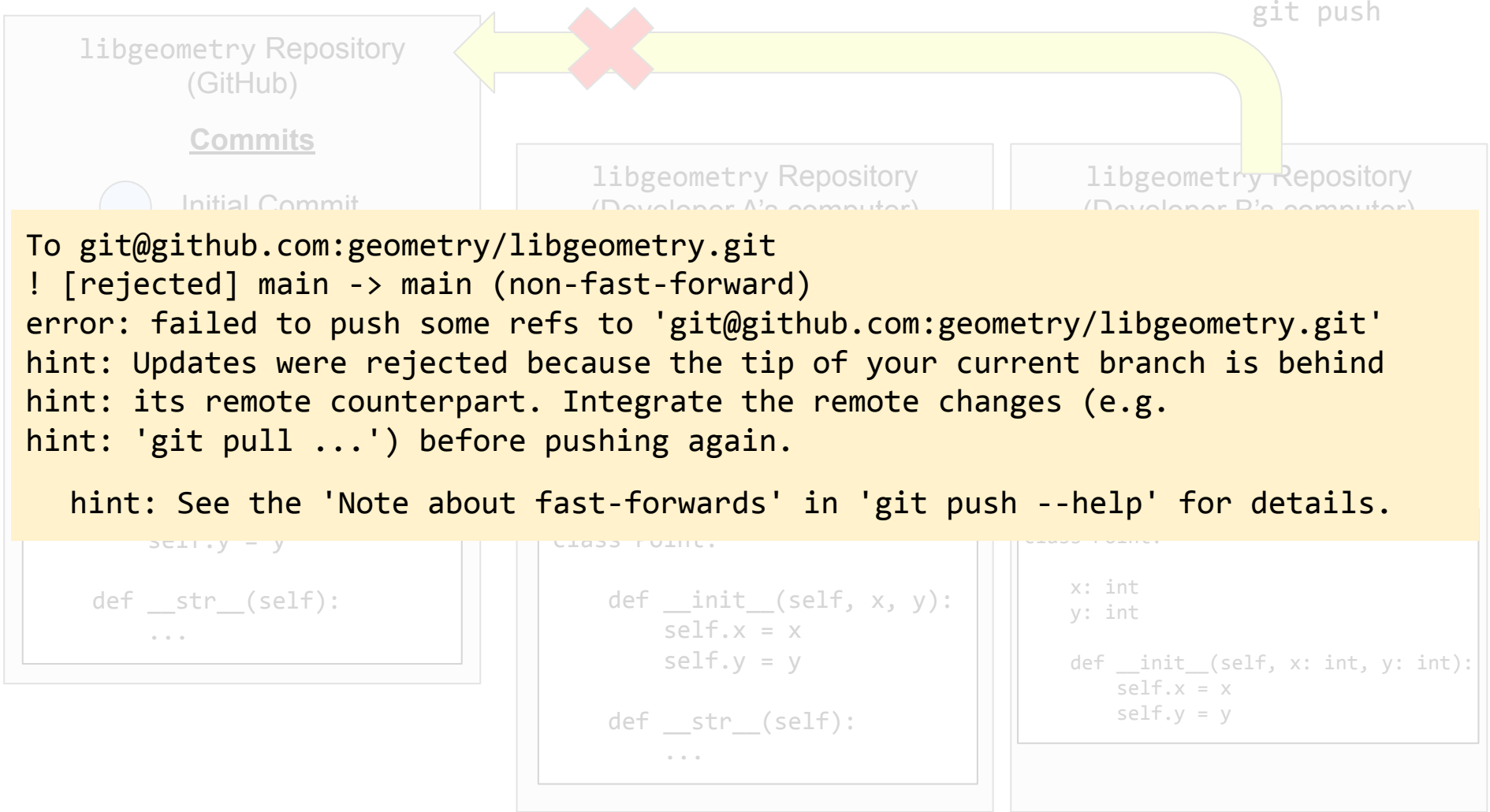
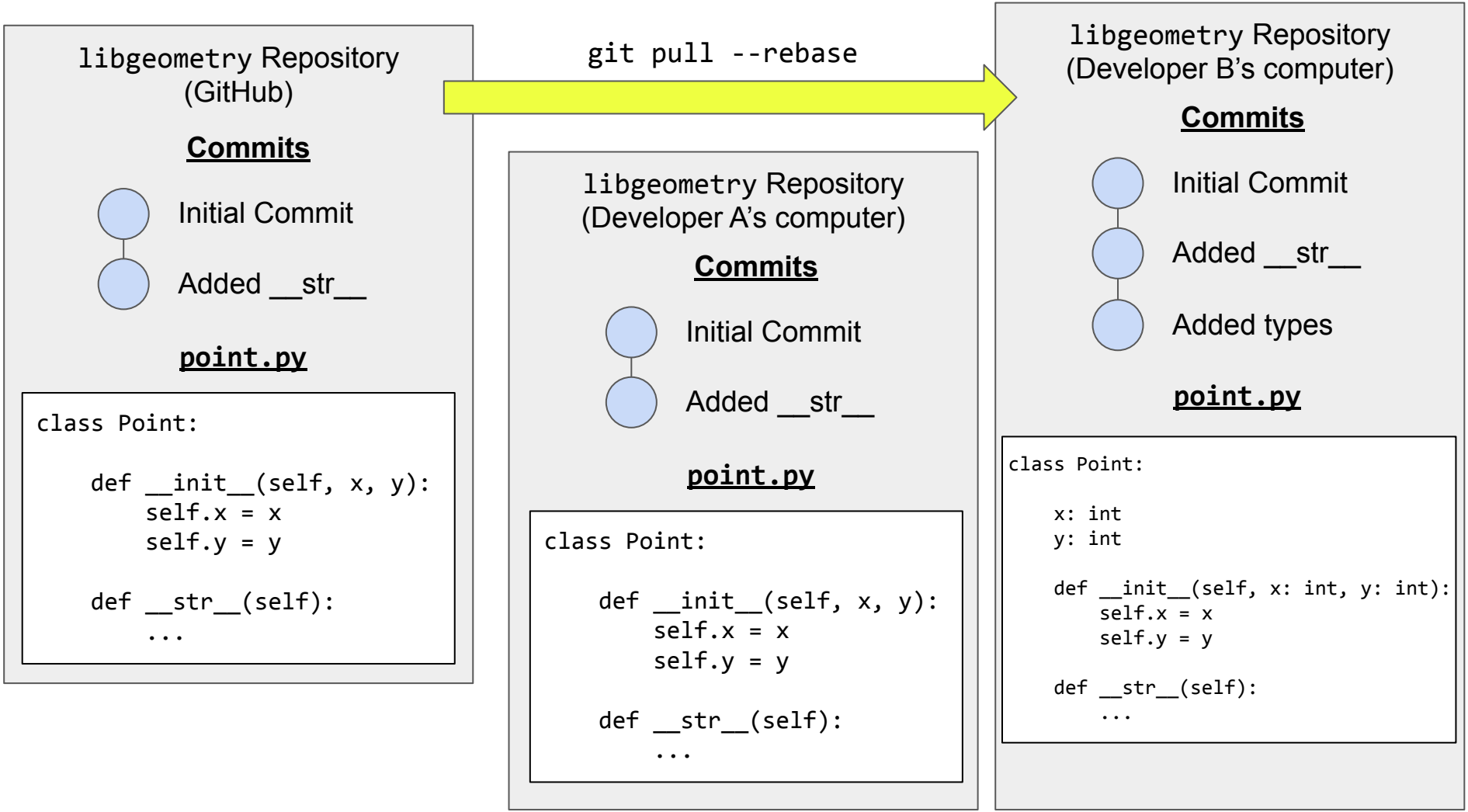



```
To git@github.com:geometry/libgeometry.git
! [rejected] main -> main (non-fast-forward)
error: failed to push some refs to 'git@github.com:geometry/libgeometry.git'
hint: Updates were rejected because the tip of your current branch is behind
hint: its remote counterpart. Integrate the remote changes (e.g.
hint: 'git pull ...') before pushing again.

  hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```


libgeometry Repository
(GitHub)
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class Point:
def __init__(self, x, y):
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self.y = y
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...
git pull --rebase
libgeometry Repository
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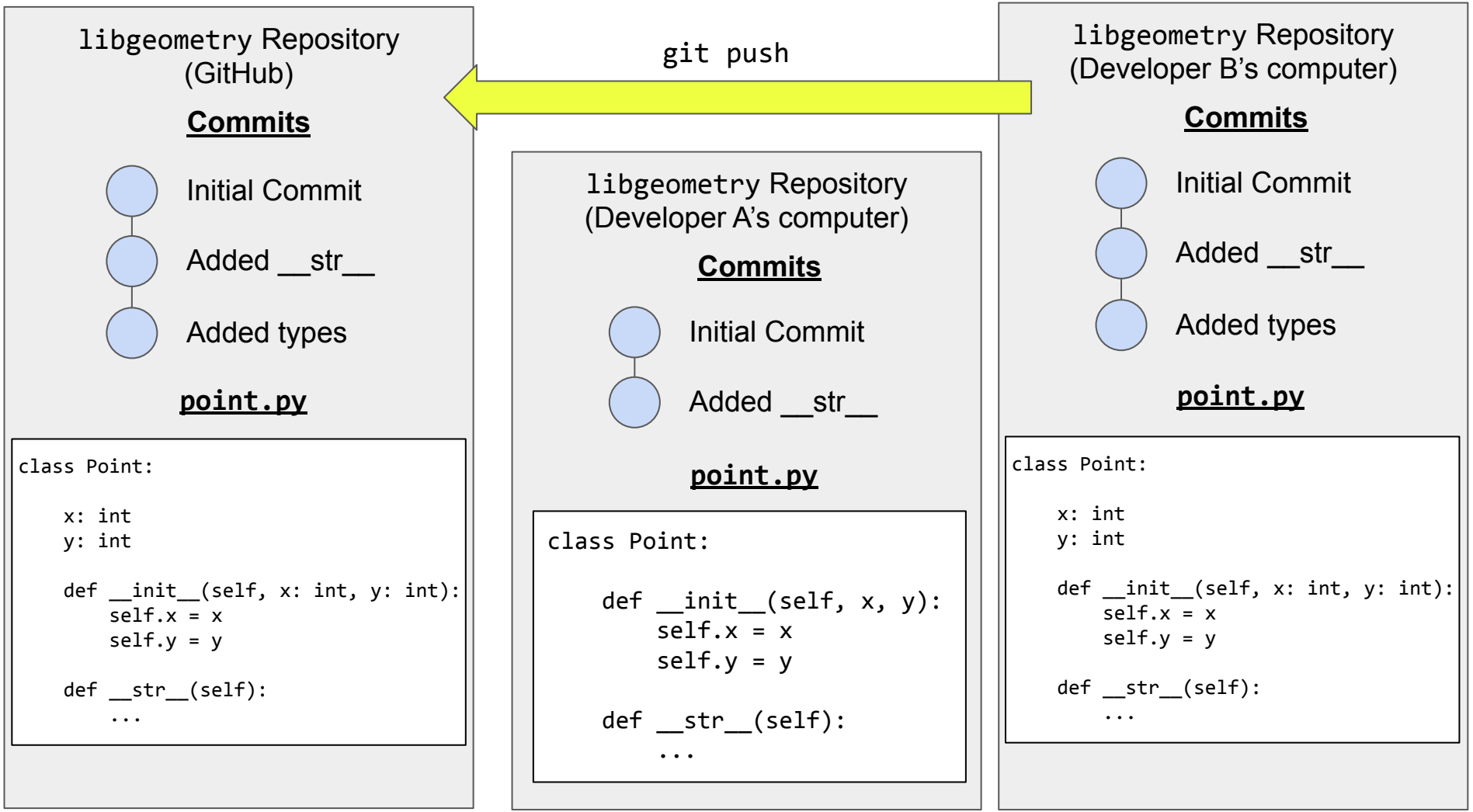
self.x = x
self.y = y
def __str__(self):
...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git push
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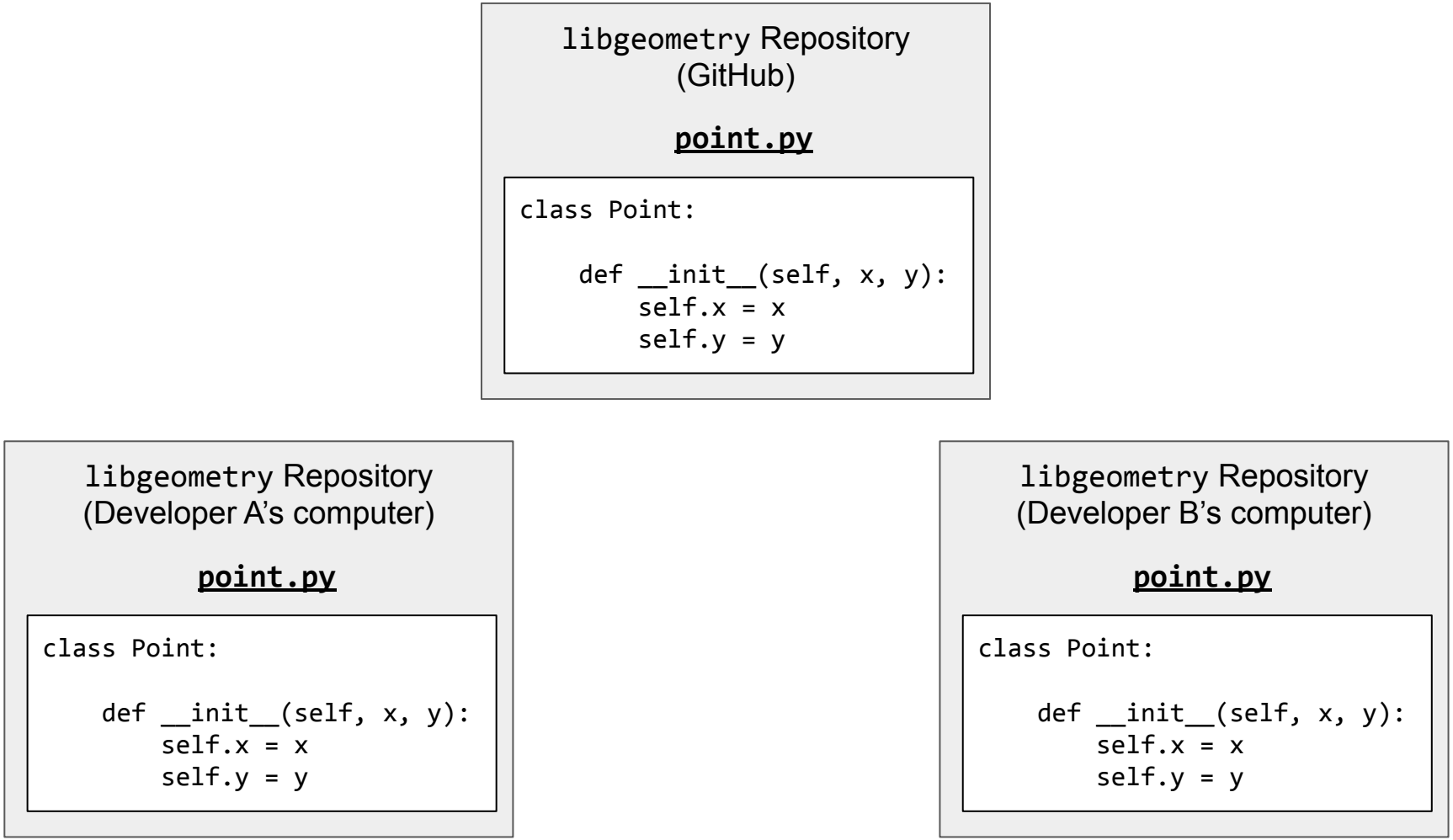
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class Point:
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libgeometry Repository
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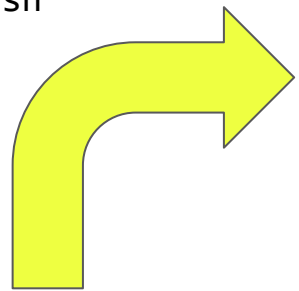
class Point:
def __init__(self, x, y):
self.x = x
self.y = y

git push



libgeometry Repository
(GitHub)

point.py

```
class Point:

    def __init__(self, x, y):
        self._x = x
        self._y = y
```

libgeometry Repository
(Developer A's computer)

point.py

```
class Point:

    def __init__(self, x, y):
        self._x = x
        self._y = y
```

libgeometry Repository
(Developer B's computer)

point.py

```
class Point:

    def __init__(self, x, y):
        self._px = x
        self._py = y
```

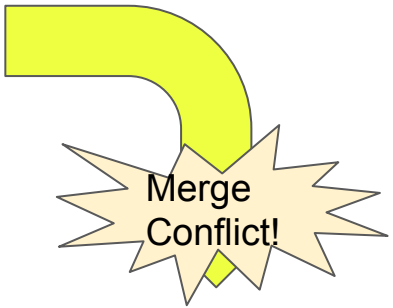
libgeometry Repository
(GitHub)

point.py

```
class Point:

    def __init__(self, x, y):
        self._x = x
        self._y = y
```

git pull



libgeometry Repository
(Developer A's computer)

point.py

```
class Point:

    def __init__(self, x, y):
        self._x = x
        self._y = y
```

libgeometry Repository
(Developer B's computer)

point.py

```
class Point:

    def __init__(self, x, y):
        self._px = x
        self._py = y
```

git pull

```
Auto-merging point.py
CONFLICT (content): Merge conflict in point.py
Automatic merge failed; fix conflicts and then commit the result.
```


git status

```
You have unmerged paths.
(fix conflicts and run "git commit")
(use "git merge --abort" to abort the merge)

Unmerged paths:
  (use "git add <file>..." to mark resolution)
        both modified:   point.py
```

```
class Point:

    def __init__(self, x, y):
        self._x = x
        self._y = y
```

```
class Point:

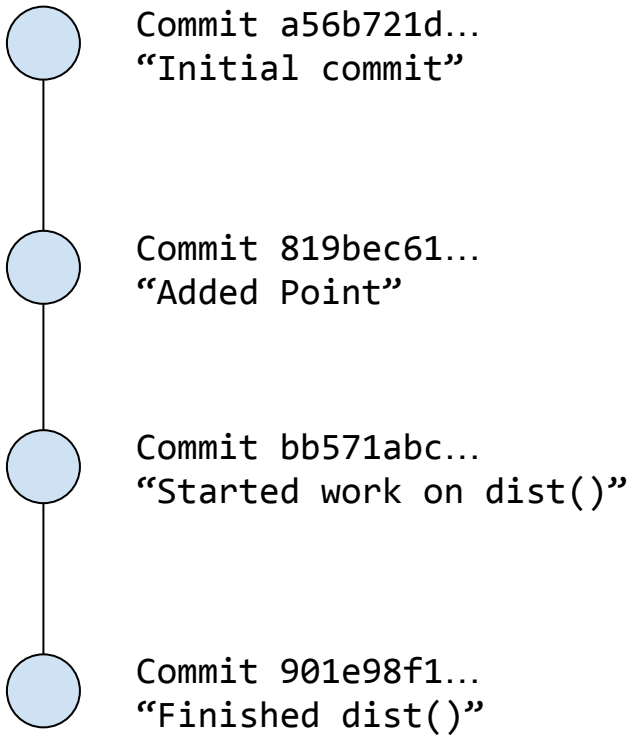
    def __init__(self, x, y):
        self._px = x
        self._py = y
```

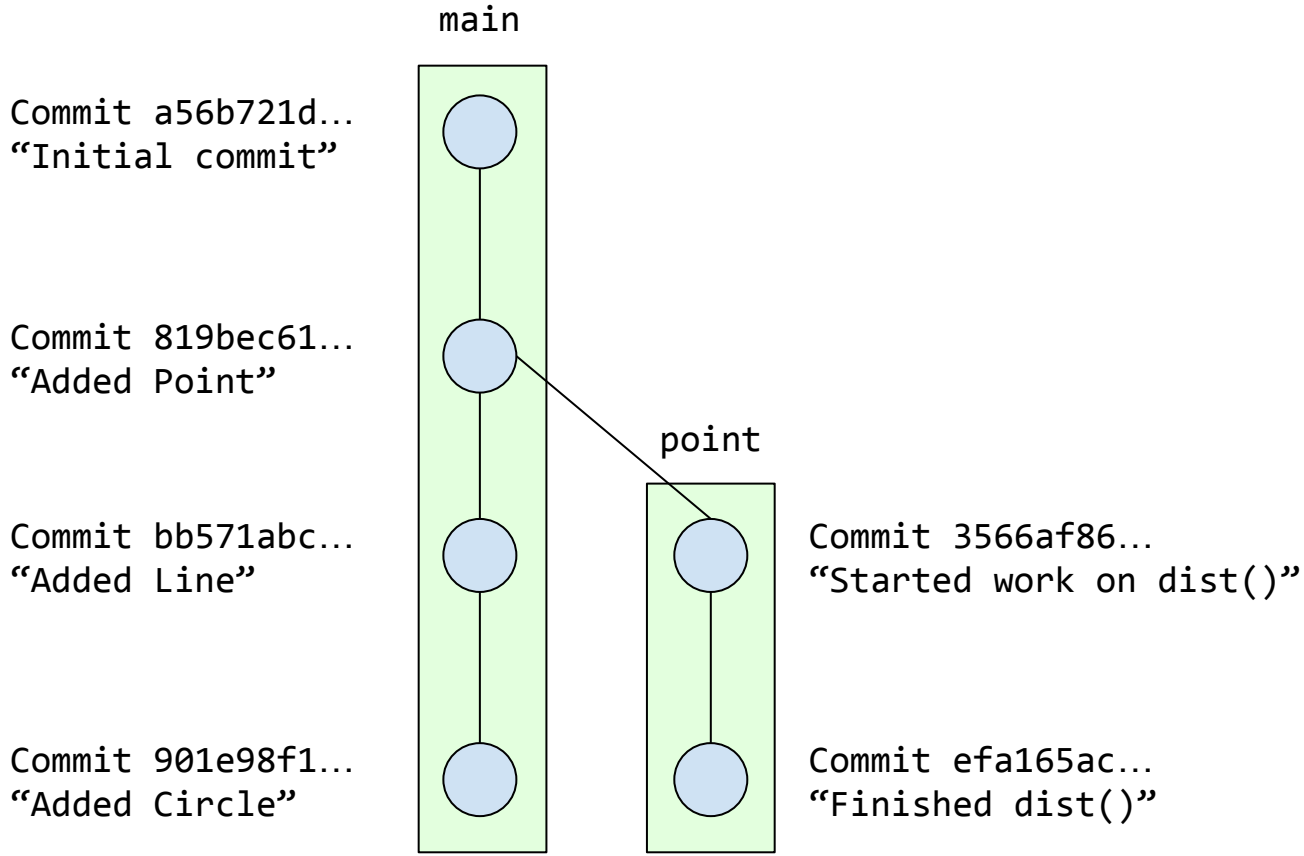
Which one do we keep?

```
class Point:

    def __init__(self, x, y):
<<<<<<< HEAD
        self._px = x
        self._py = y
=======
        self._x = x
        self._y = y
>>>>>>> main
```

Which one do we keep?


Commit a56b721d…
“Initial commit”
Commit 819bec61…
“Added Point”
Commit bb571abc…
“Started work on dist()”
Commit 901e98f1…
“Finished dist()”


main
Commit a56b721d…
“Initial commit”
Commit 819bec61…
“Added Point”
Commit bb571abc…
“Added Line”
Commit 901e98f1…
“Added Circle”
point
Commit 3566af86…
“Started work on dist()”
Commit efa165ac…
“Finished dist()”