Story-Branch Workflow

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- Each User Story (rather than each Sprint) has its own branch
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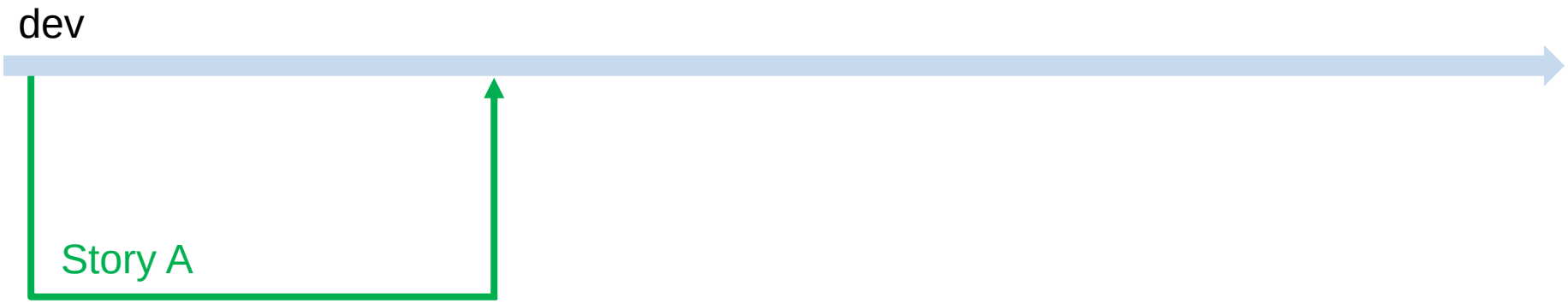

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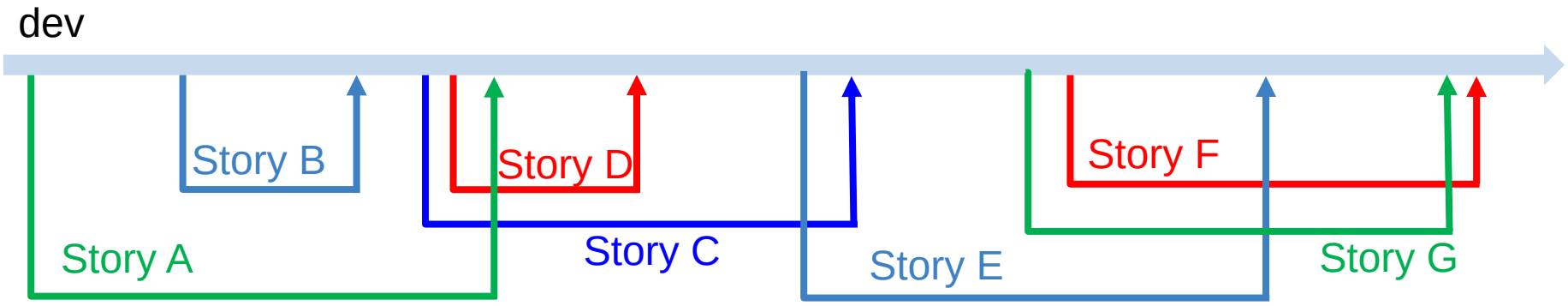
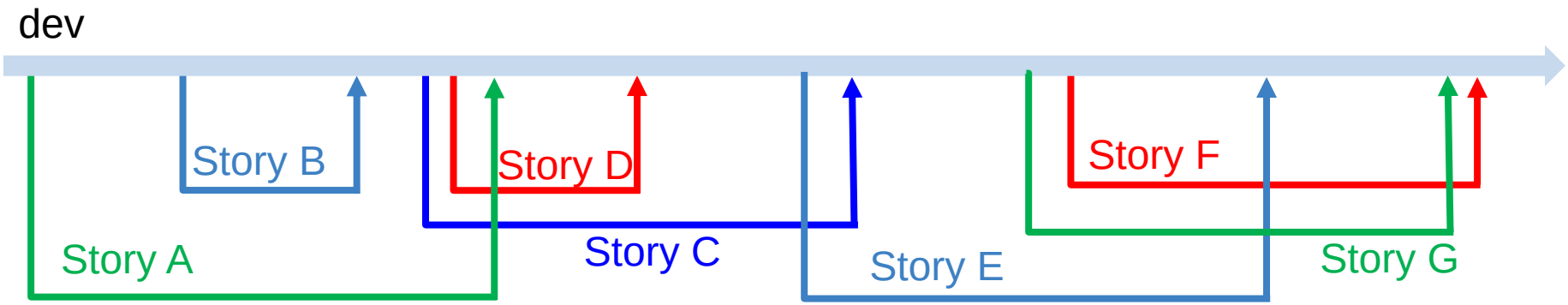


Story-Branch Workflow

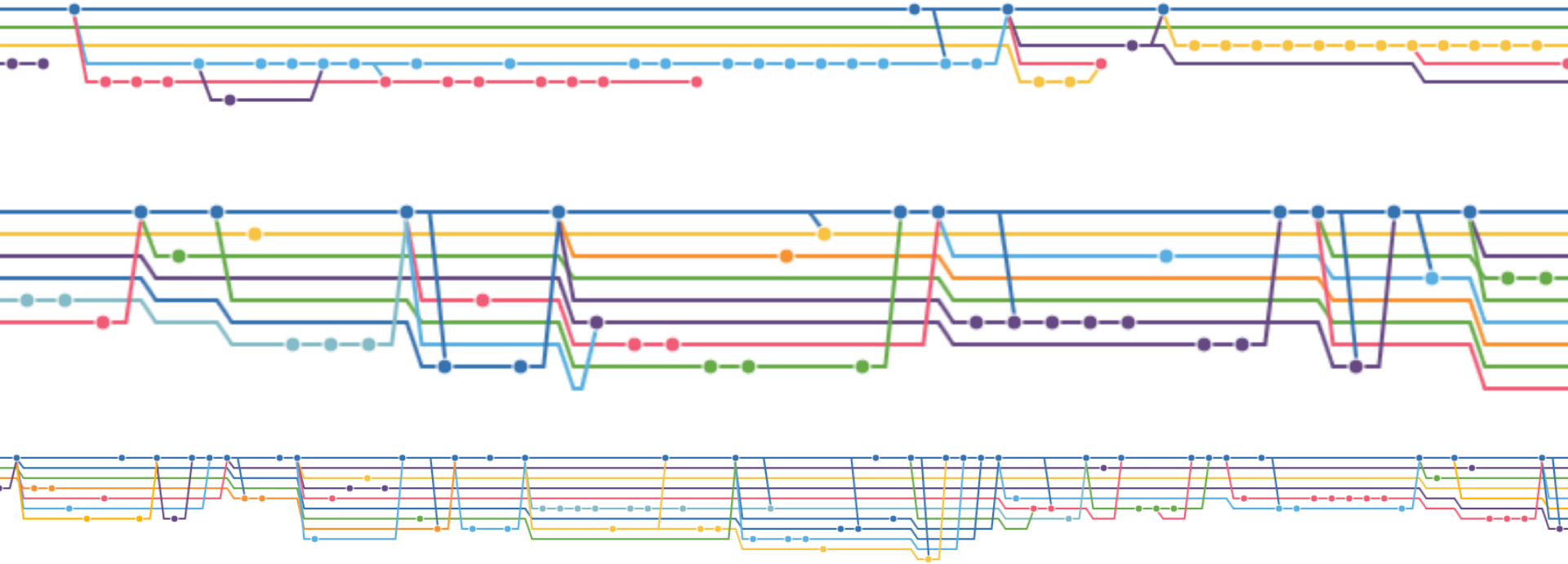
- Advantages:
  - ???
- Disadvantages:
  - ???
- When to Use:
  - ???



Story-Branch Workflow

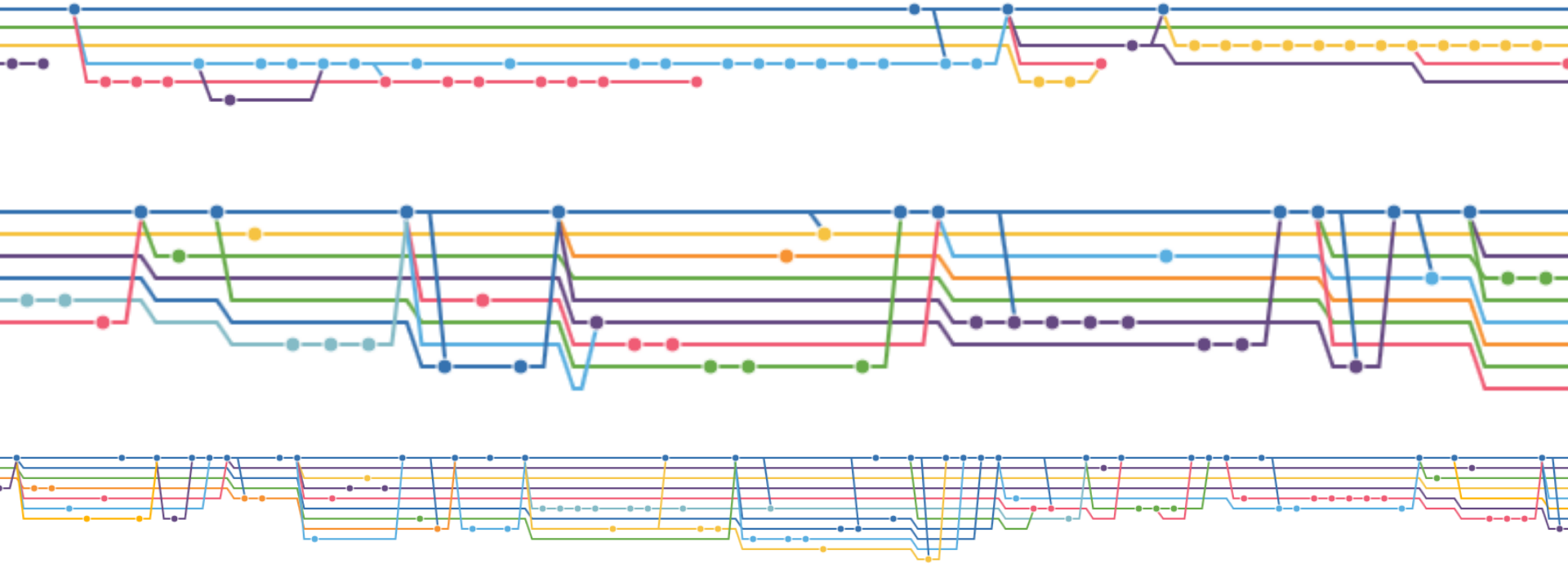
- Advantages:
  - Allows strong collaboration on each story
  - Isolates one story's changes from those of other stories
- Disadvantages:
  - Developers have to switch branches a lot
  - Potential integration issues during the sprint and at the end of the sprint (when multiple stories may be merged to master)
- When to Use:
  - For implementing risky stories whose outcome is uncertain

Story-Branch Workflow Examples

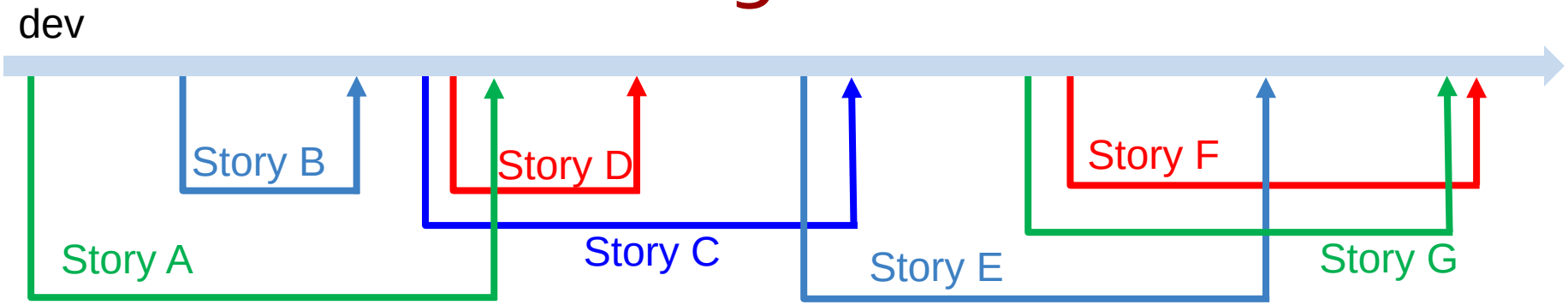


Story-Branch Workflow Examples

- Multiple "parallel" versions of the code in different branches
- Developers have to switch branches a lot
- Non-linear (cluttered) history



Decluttering the Branches



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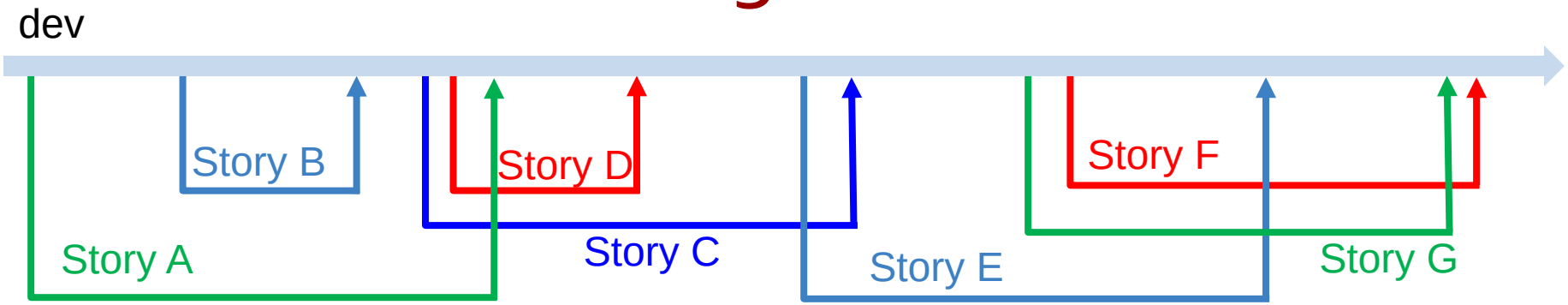
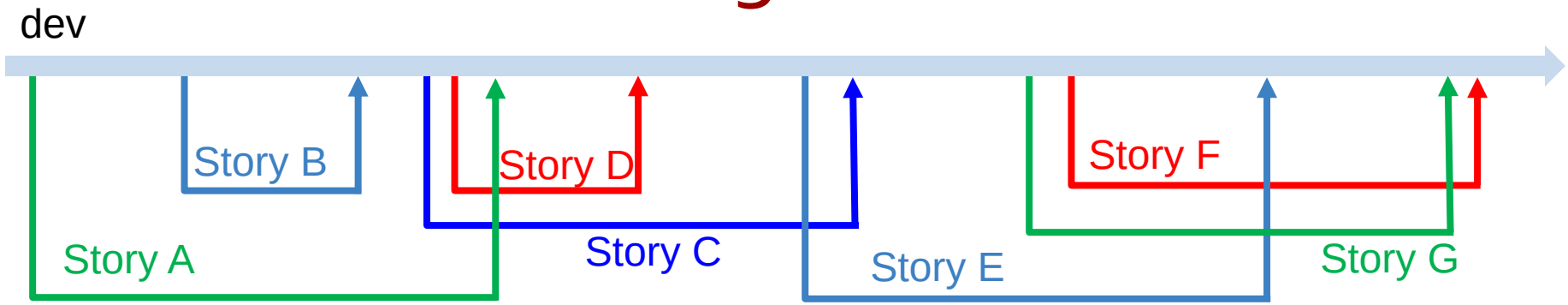


Using the squashing and rebasing functionality of git, we can transform the cluttered history into…

Decluttering the Branches



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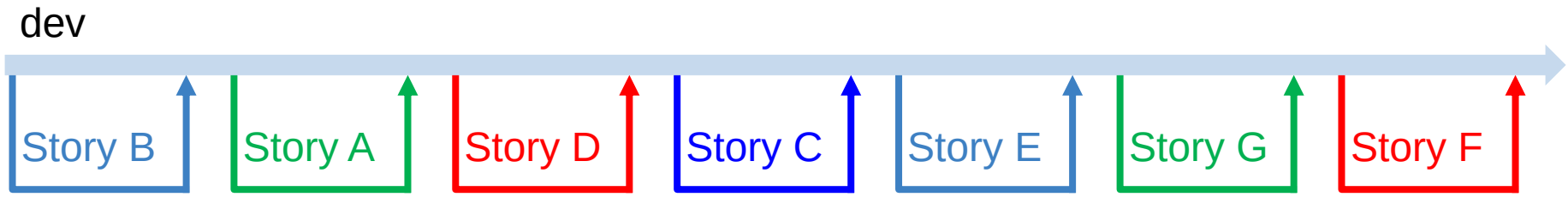

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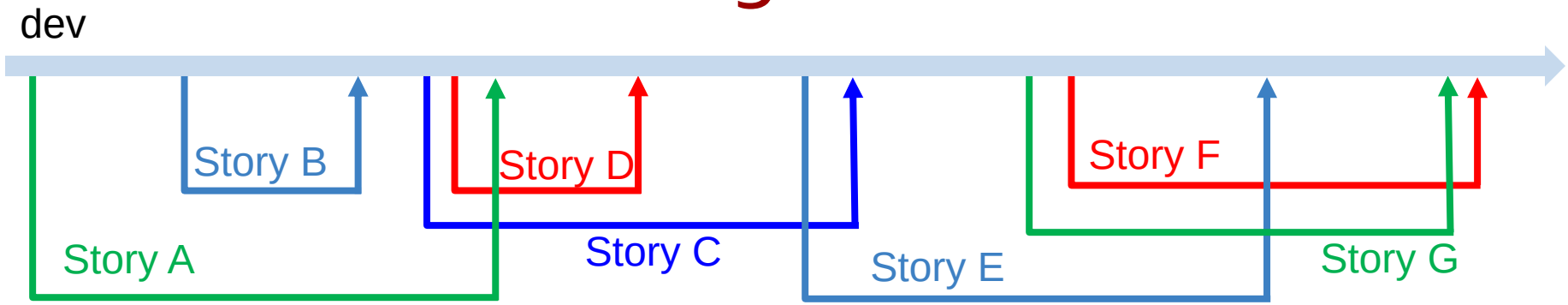

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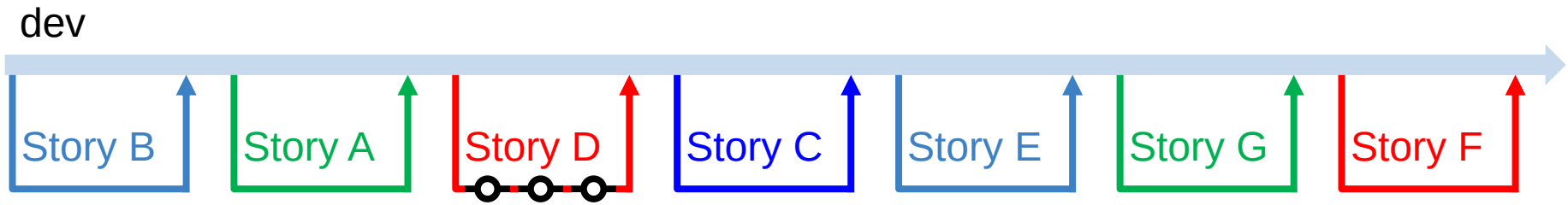

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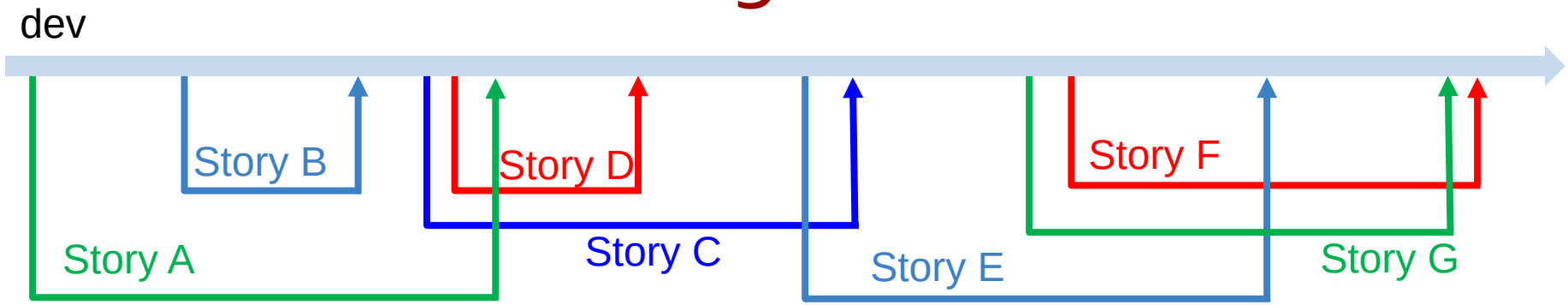

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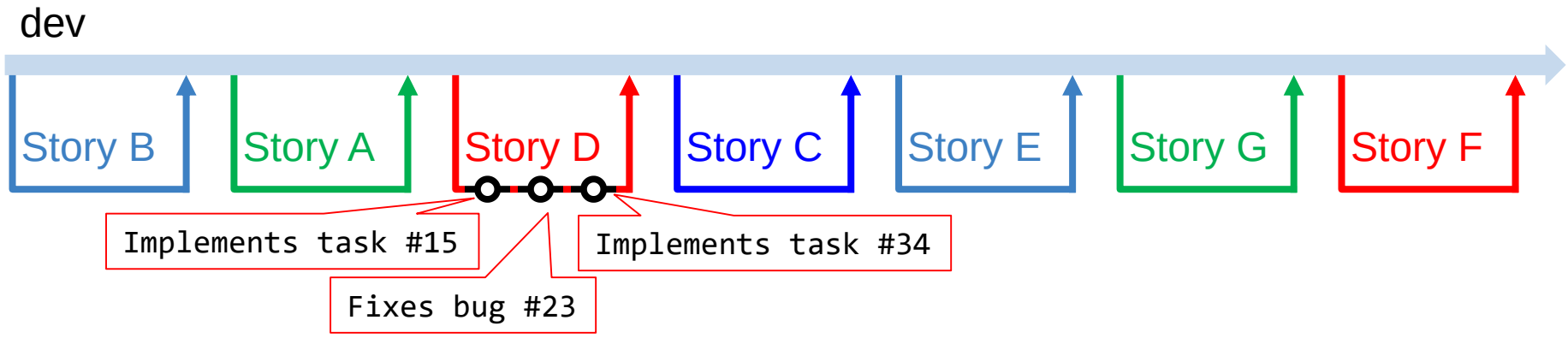

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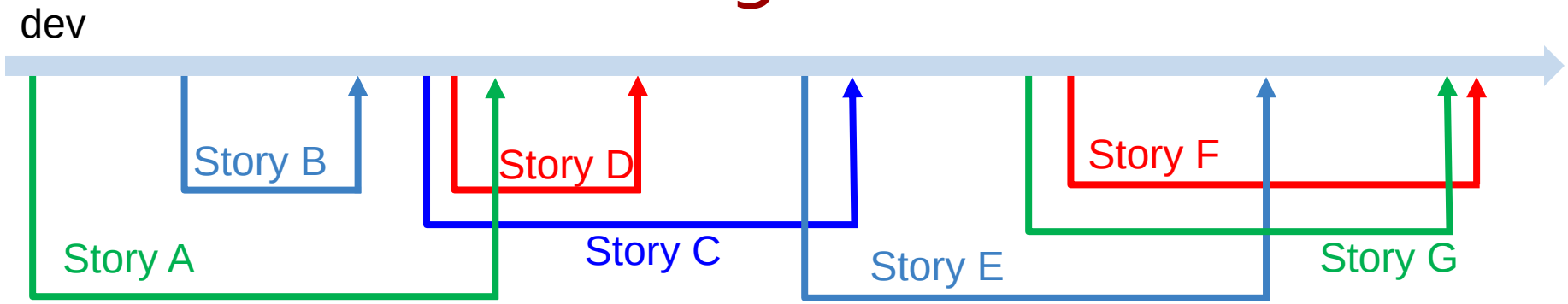

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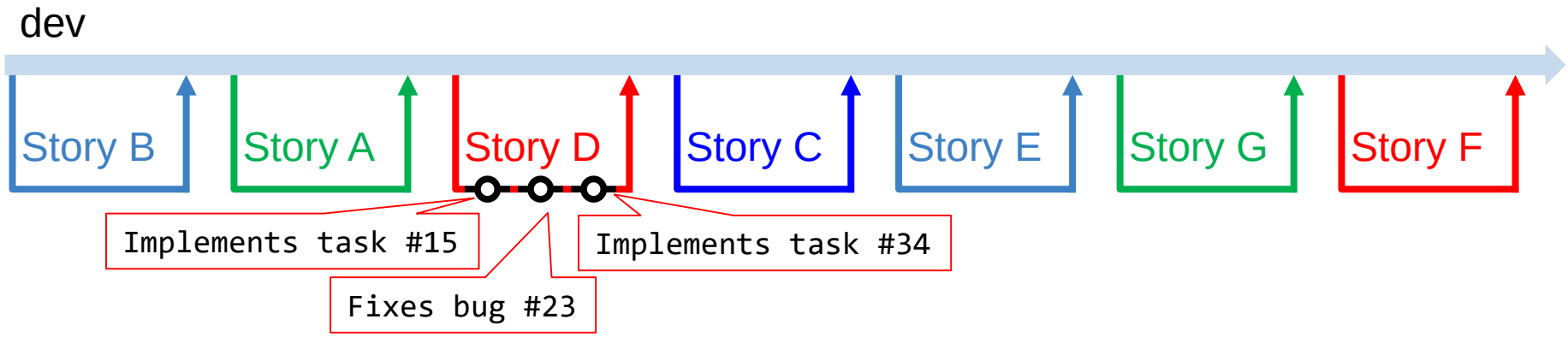

Each branch contains only atomic commits that implement tasks/bugs related to the story (e.g., #15, #23 and #34 belong to Story D)

Workflow trends discussed so far…

Workflow trends…

- "Module-branch" workflow (Waterfall)
- Sprint-branch workflow
- Story-branch workflow

Workflow trends…

- "Module-branch" workflow (Waterfall)
  - "Big-Bang" integration issues
- Sprint-branch workflow
  - Potential mini "Big-Bang" integration at end of sprint
- Story-branch workflow
  - Potential (smaller) integration issues through the sprint
- Tendency was for developers to focus on smaller changes ⇒ rapid feedback ⇒ increased productivity

Workflow trends…

- "Module-branch" workflow (Waterfall)
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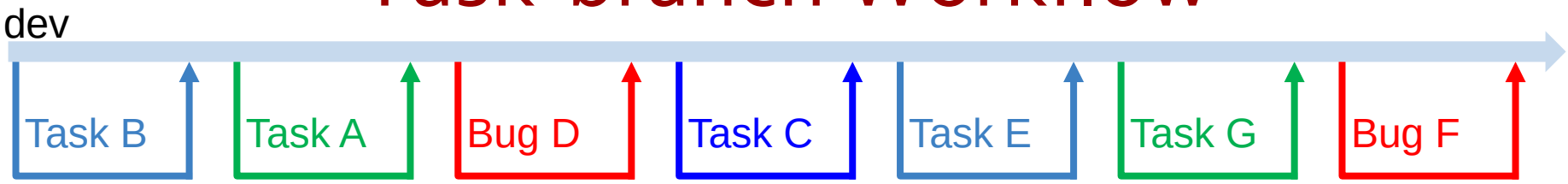
- Task-branch? workflow

Task-branch Workflow



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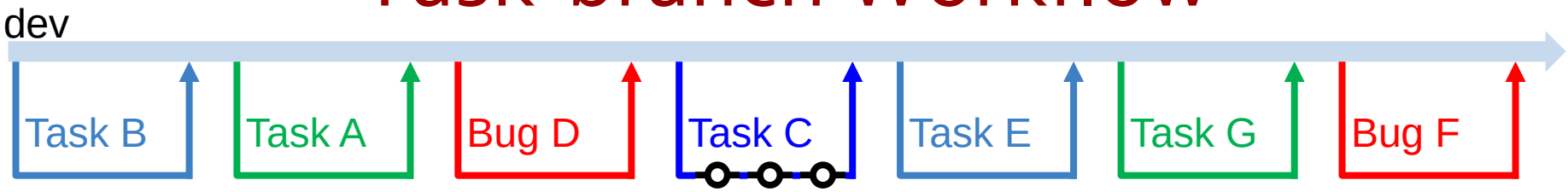

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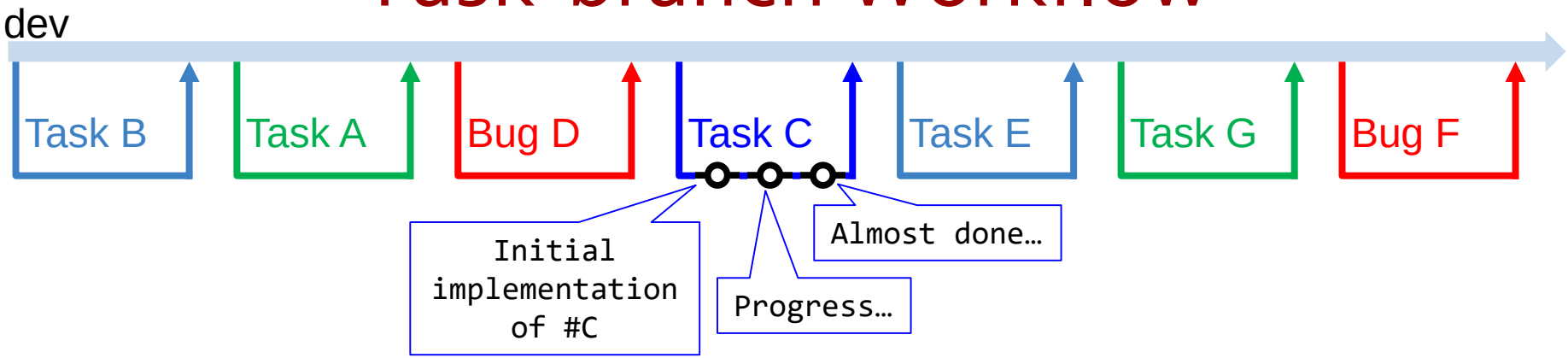

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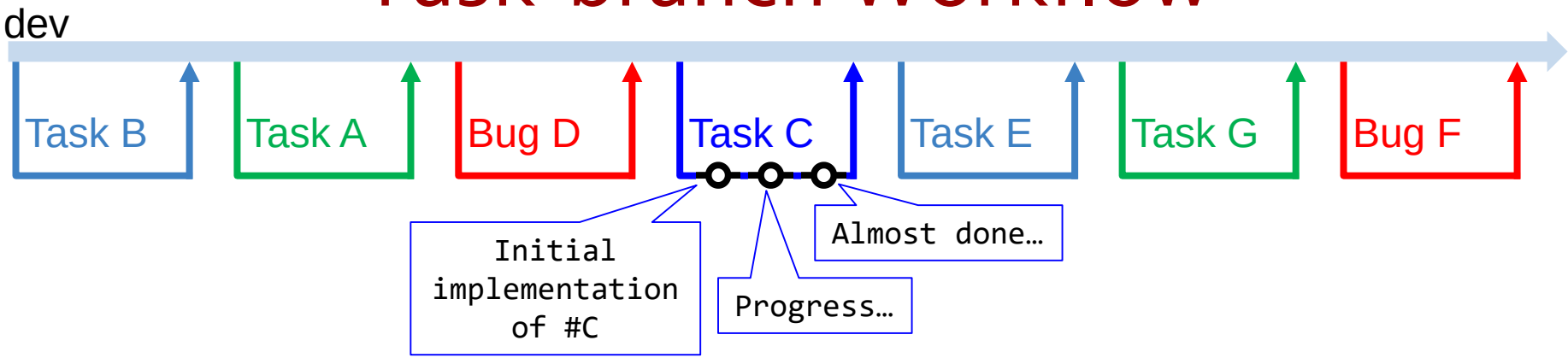

After squashing the 3 commits into one commit with a precise commit log message

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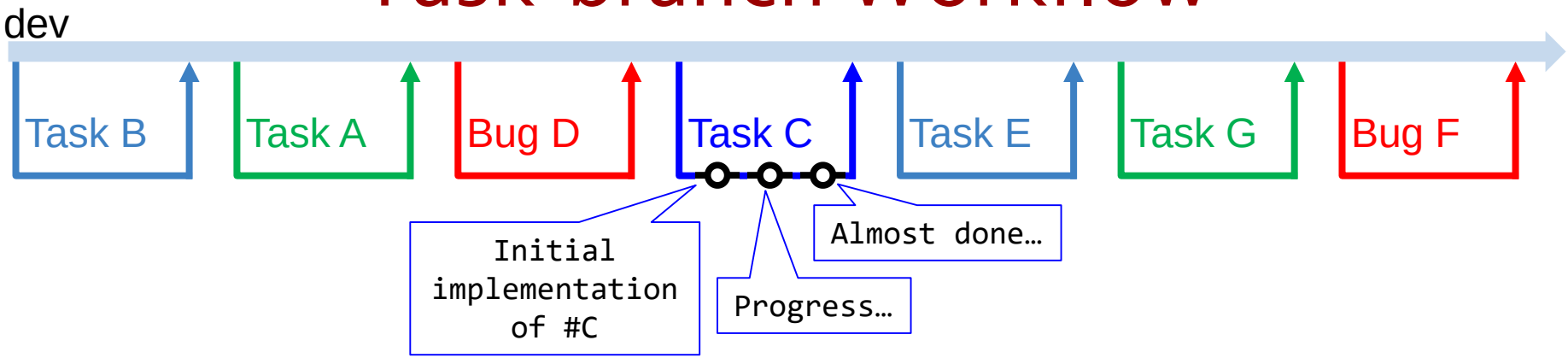

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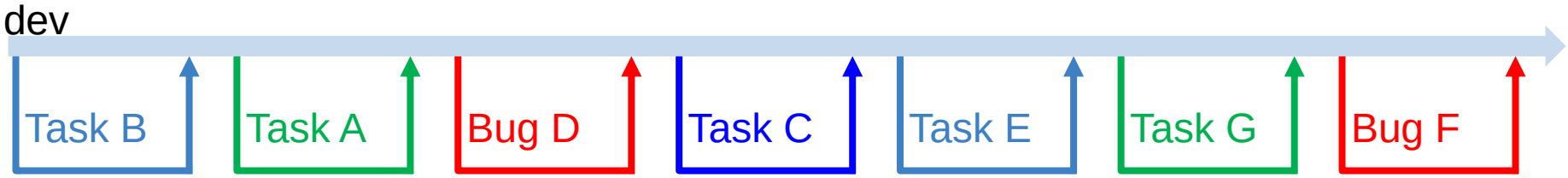

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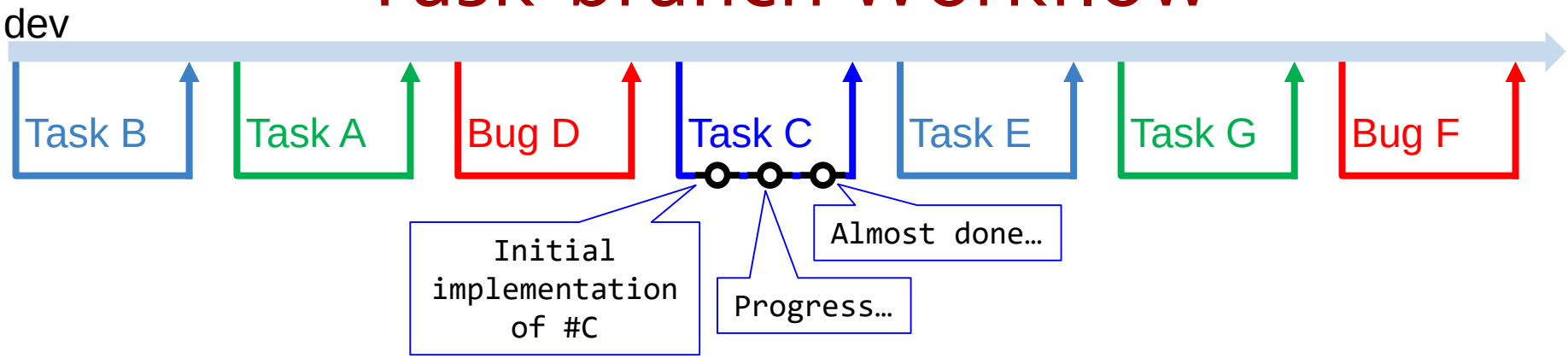

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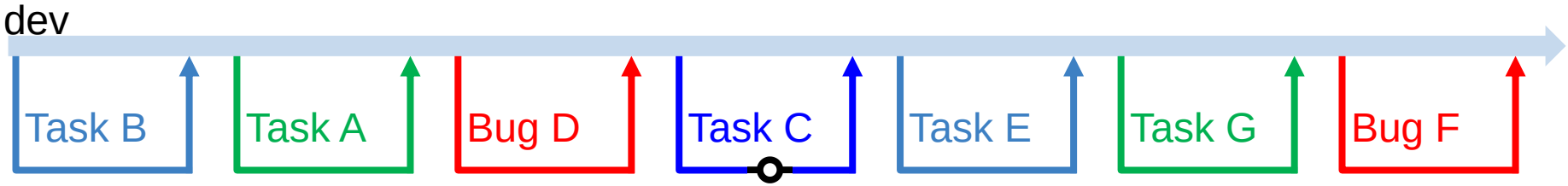

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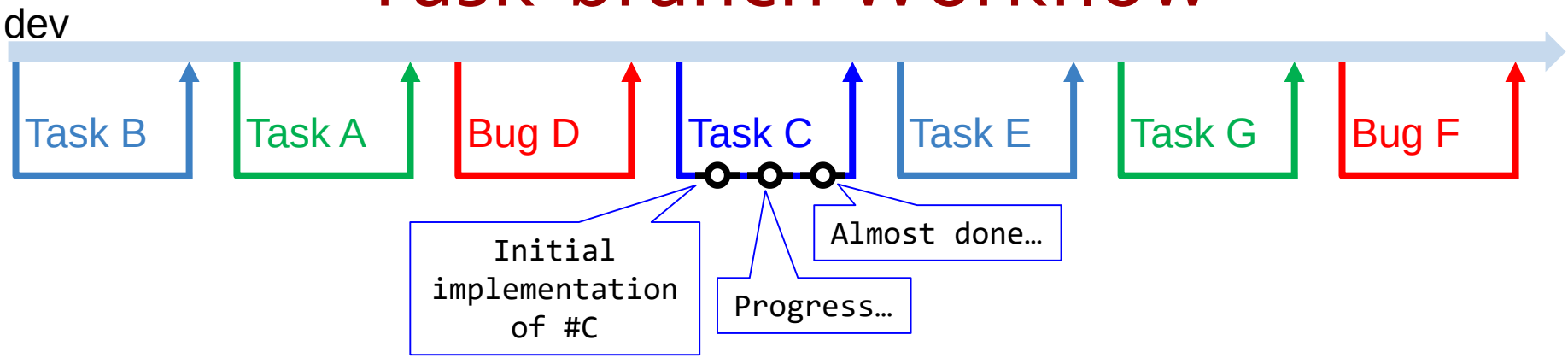

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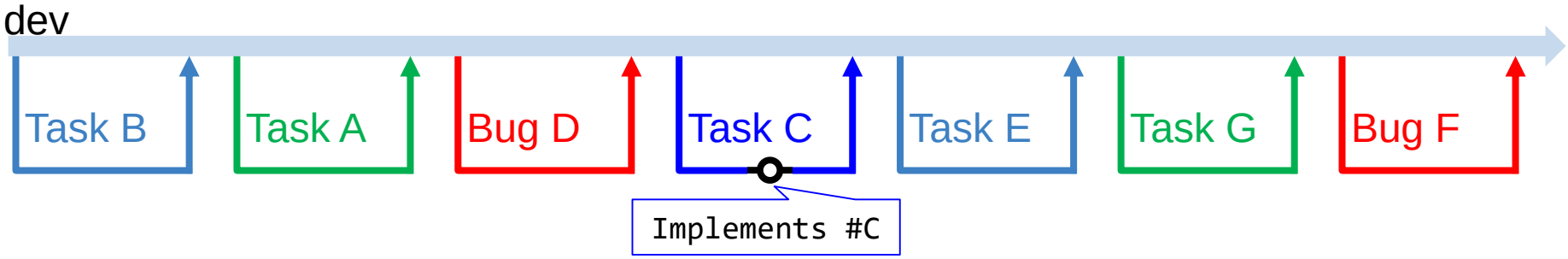

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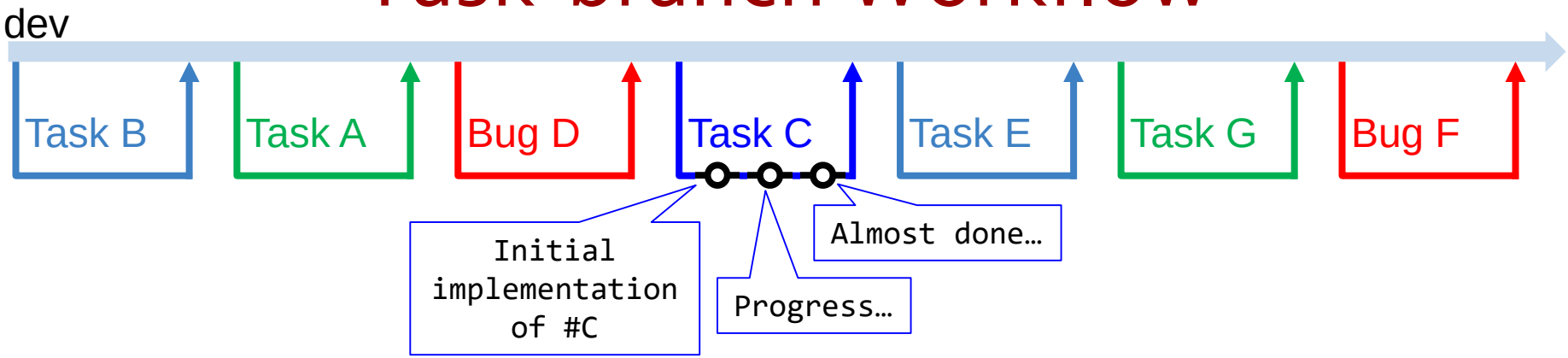

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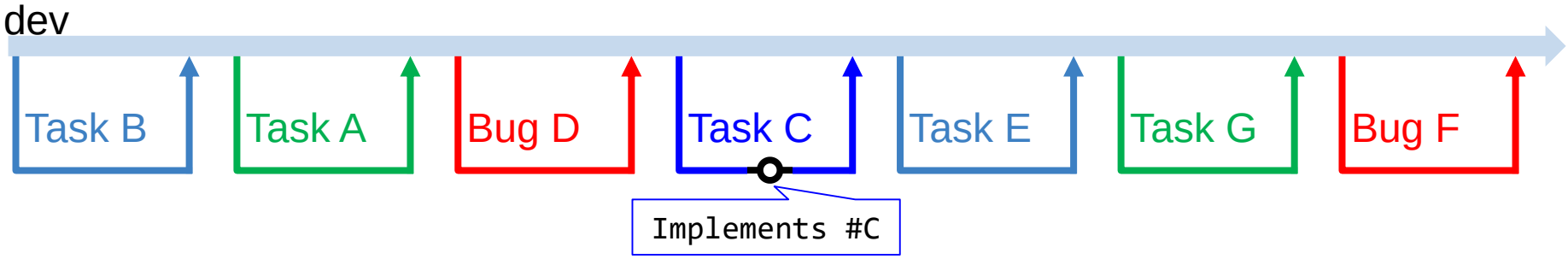
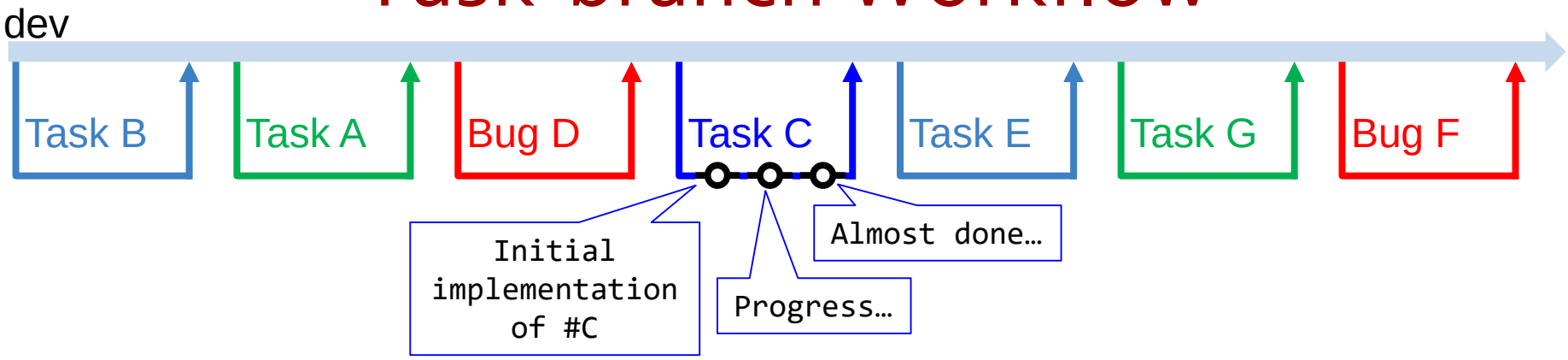


After rebase-ing the commit and deleting the branch

Task-branch Workflow



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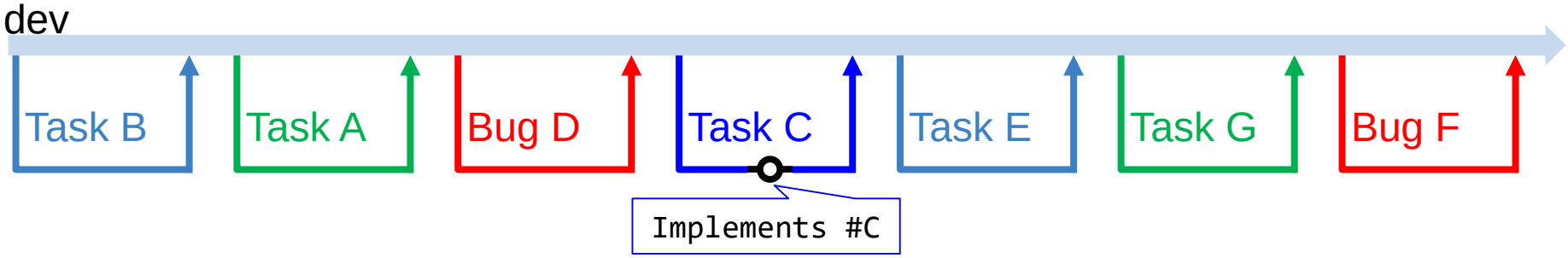

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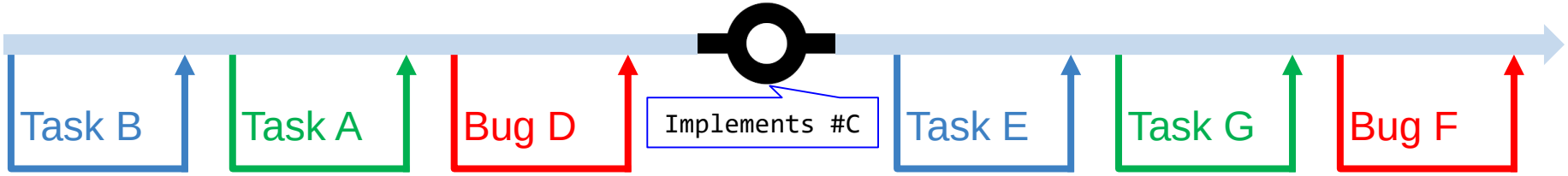

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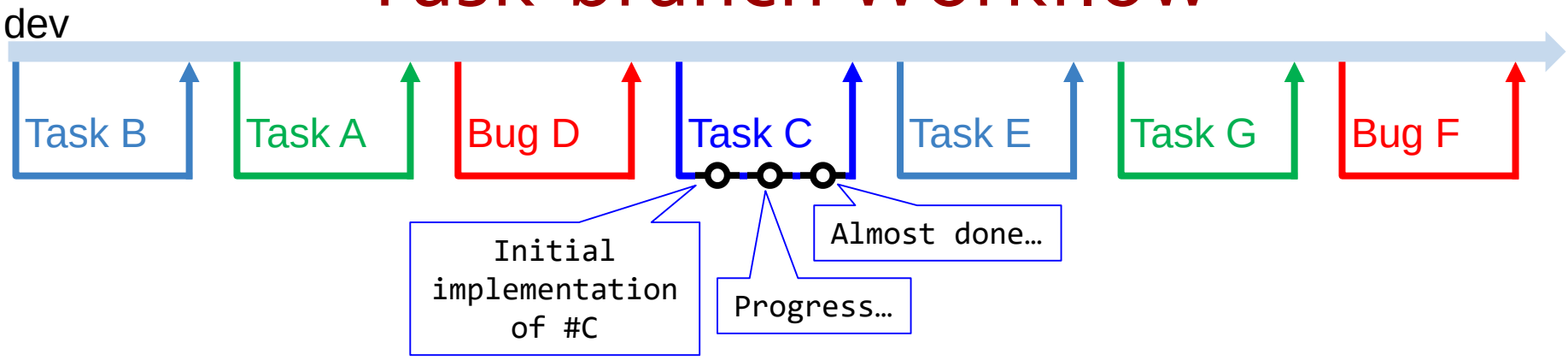

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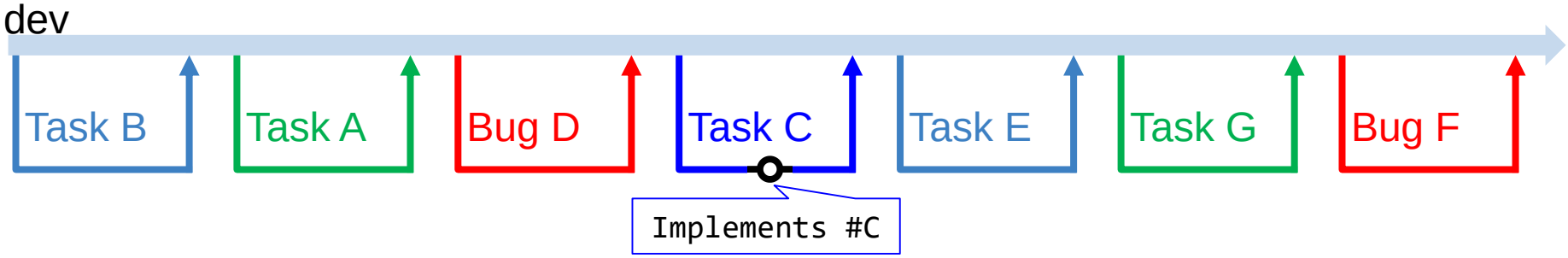

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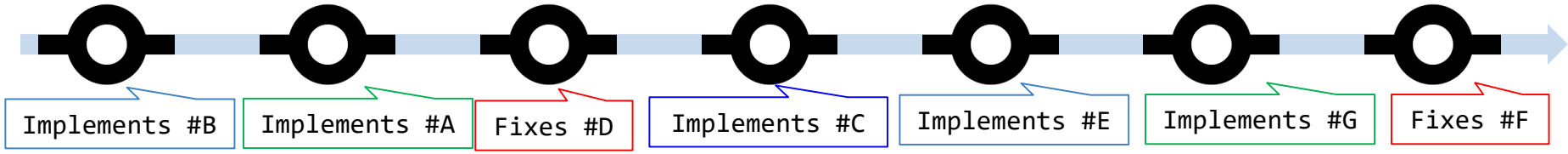


Workflow Questions

- Why don't all the Developers simply commit their changes to the *master branch*?

Workflow Questions

- Why don't all the Developers simply commit their changes to the *master branch*?

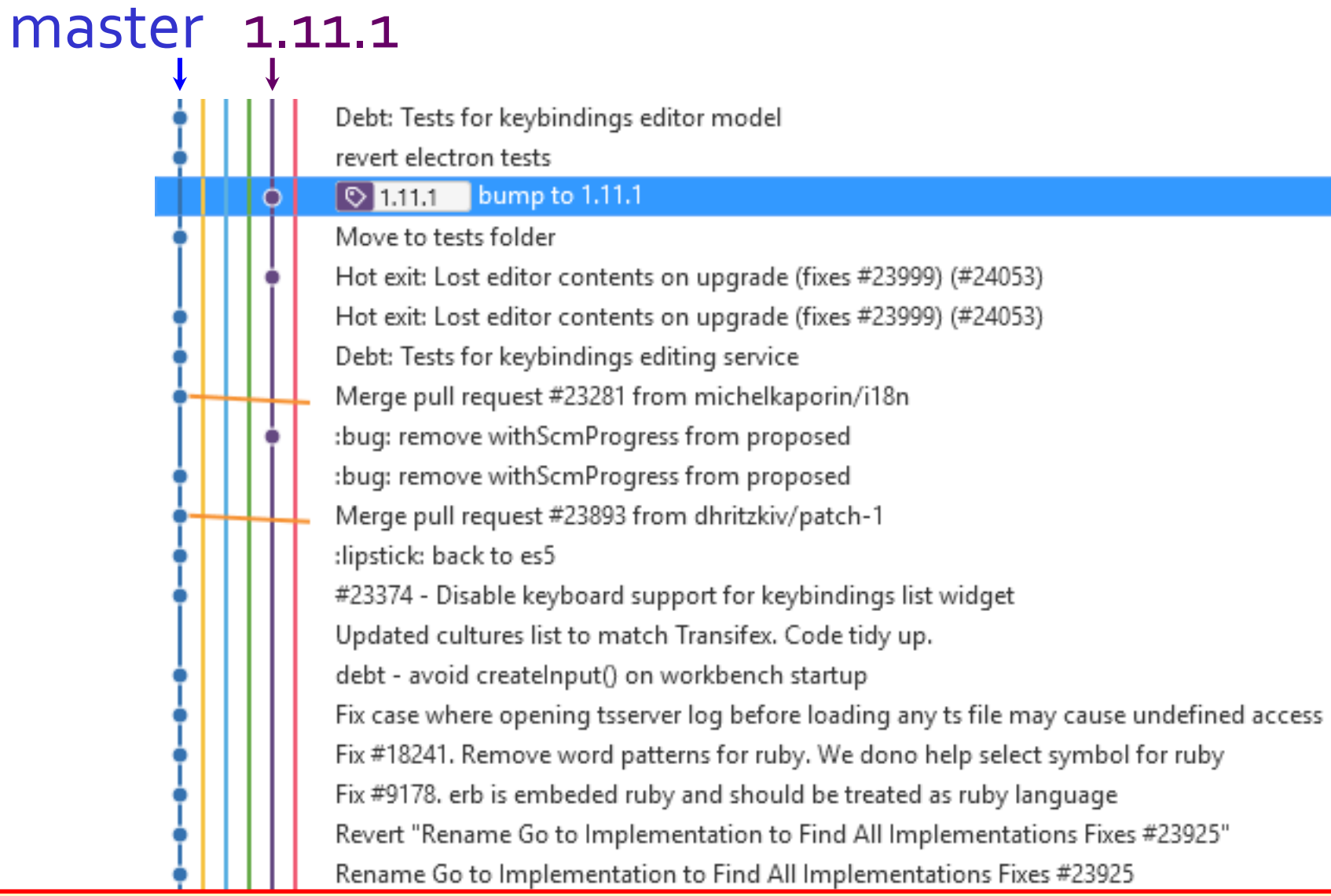
- How does the workflow used in your internship differ from the one we discussed? Advantages, disadvantages?

Workflow of Visual Studio Code: Submit to master / polish release branches

- Visual Studio Code* uses a workflow where:
  - developers test their newly implemented code in their local sandboxes
  - submit tested code to master (triggering CI)
  - create a "release" branch at regular intervals and the release branch is "synced" with the master
    - some last minute commits to master are incorporated in the branch
      - any changes submitted to the master, but not incorporated in the release branch will be used in future releases
    - fixes in the branch are incorporated back into the master

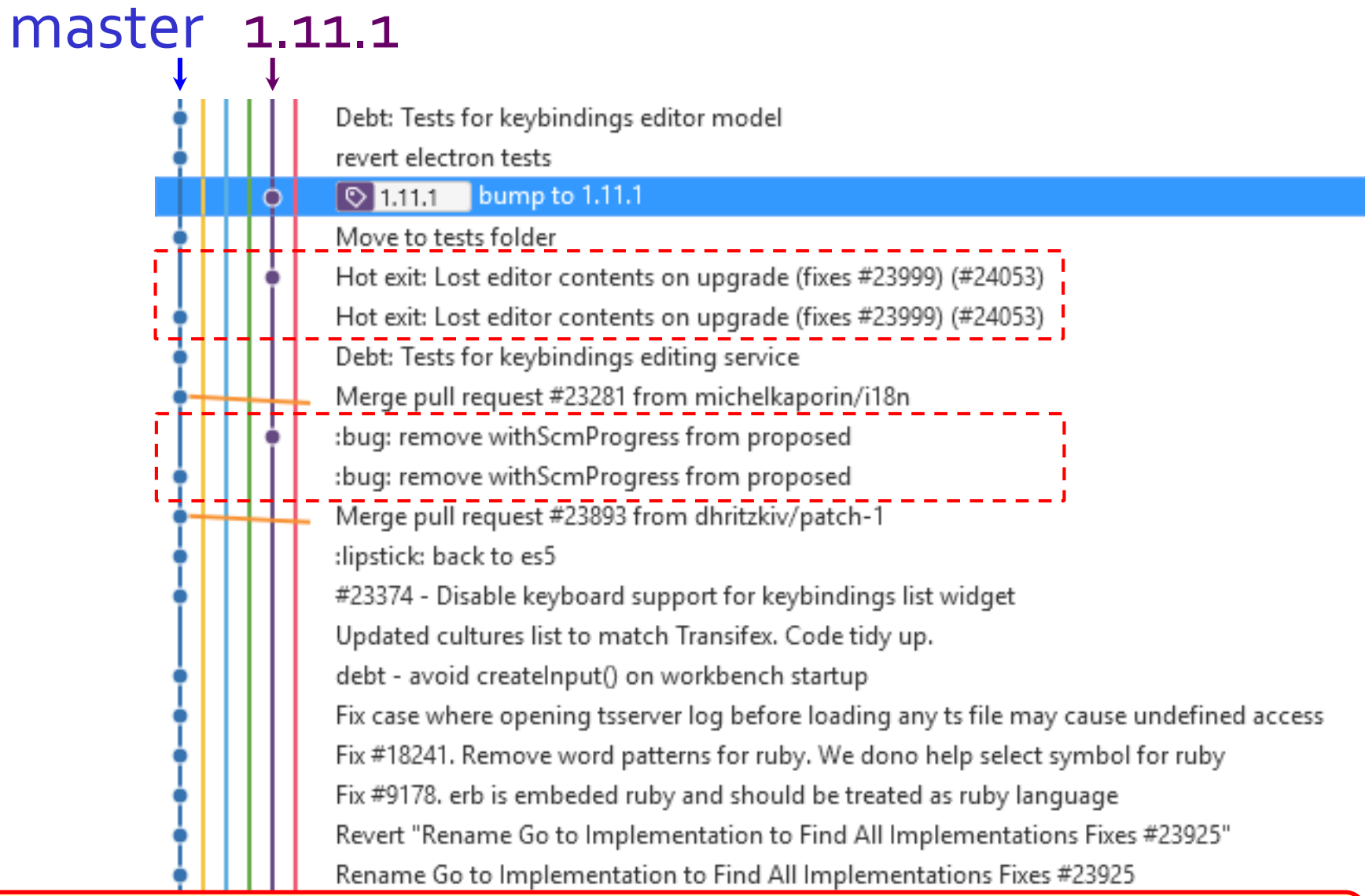
https://github.com/Microsoft/vscode

Workflow of Visual Studio Code



`1.11.1 is a release branch` created from `master`

Workflow of Visual Studio Code



`1.11.1 is a release branch created from master`
`(1.11.1 and master are kept in sync for the most part)`