Software Tools and Technologies Lab II Assignment 1

12. Recall that the merge commit object has multiple parents. What will be the output of the execution of the following git relative reference command: 'git checkout HEAD' on each of the git graphs below. Show the resultant git graphs. Now explain how git resolves this ambiguity.
Ans:

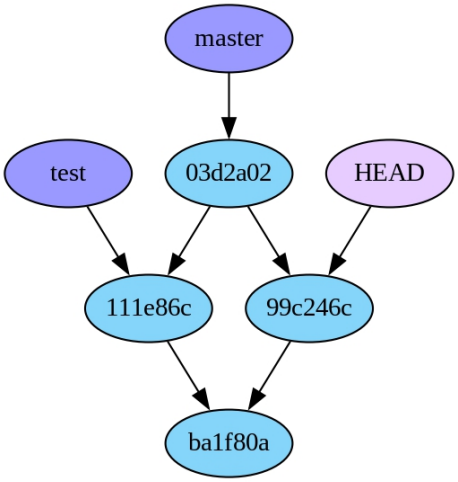
The git checkout HEAD~ command is used to switch the current working directory to the parent commit of the current commit.

The HEAD~ notation refers to the parent commit of the current commit, and the git checkout command is used to switch to a specific commit or branch.

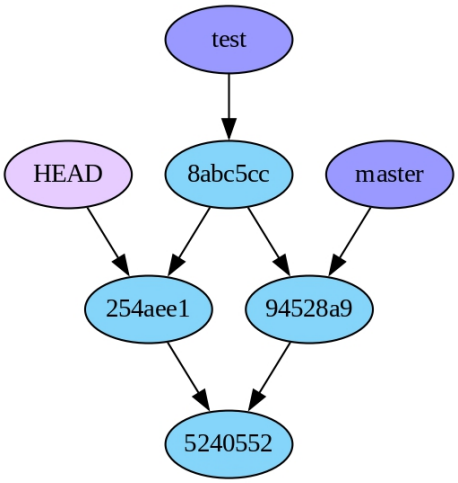
The ~ symbol is used to specify the parent of the current commit. For example, HEAD~ refers to the first parent of the current commit, which is the commit immediately before the current commit.

When you run git checkout HEAD~, Git will switch your working directory to the state of the parent commit, discarding any changes you made in the current commit. This is useful when you want to undo the changes made in the most recent commit.

In the given graphs, the head is on the commit which is formed by the merging of the master and test branch. The ambiguity arises when we run the command git checkout HEAD~, whether it will switch into the commit present in the master or in the test branch.
The git graph for the first graph is:



The git graph for the second graph is:



Git resolves this ambiguity by just switching the HEAD to the first parent commit of current commit.