Software Engineering
Lab_6
Group_3
Project group_17

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Q_1) Activity Diagram

```
                                    ┌─────────────────────┐
          ●────────────────────────▶│   SVN Repository.   │
                                    └─────────────────────┘
                                              │
                                              ▼
                                    ┌─────────────────────┐
                                    │      Checkout       │
                                    └─────────────────────┘
                                              │
                                              ▼
                                    ┌─────────────────────┐
          ┌────────────────────────▶│    Modification     │◀───────────────────────┐
          │                         └─────────────────────┘                        │
          │                                   │                                     │
          │                                   ▼                                     │
          │                         ┌─────────────────────┐                        │
          │                         │      Testing        │                        │
          │                         └─────────────────────┘                        │
          │                                   │                                     │
          │                                   ▼                                     │
          │         ┌─────────────────────────┴─────────────────────────┐          │
          │         ▼                                                   ▼          │
          │  ┌──────────────┐                                   ┌──────────────┐   │
          │  │   Firefox    │                                   │   Explorer   │   │
          │  └──────────────┘                                   └──────────────┘   │
          │         │                                                   │          │
          │         ▼                                                   ▼          │
          │      ◇ pass ◇                                           ◇ pass ◇       │
          │ no ╱        ╲                                           ╱       ╲ no    │
          └───            │ yes                                 yes │                ┘
                          ▼                                         ▼
          ┌───────────────┴─────────────────────────────────────────┴──────────────┐
                                              │
                                              ▼
                                           ◇     ◇
                          ┌───────────────         ───────────────┐
                          ▼                                        ▼
                   ┌──────────────┐                        ┌──────────────┐
                   │  Patch file  │                        │    commit    │
                   └──────────────┘                        └──────────────┘
                          │                                        │
                          ▼                                        │
              ┌───────────────────────┐                           │
              │ Apply to Production   │                           │
              │        code           │                           │
              └───────────────────────┘                           │
                          │                                        │
                          ▼                                        │
                   ┌──────────────┐                               │
                   │    commit    │                               │
                   └──────────────┘                               │
                          │                                        │
          ┌───────────────┴────────────────────────────────────────┴──────────────┐
                                              │
                                              ▼
                                             ◉
```
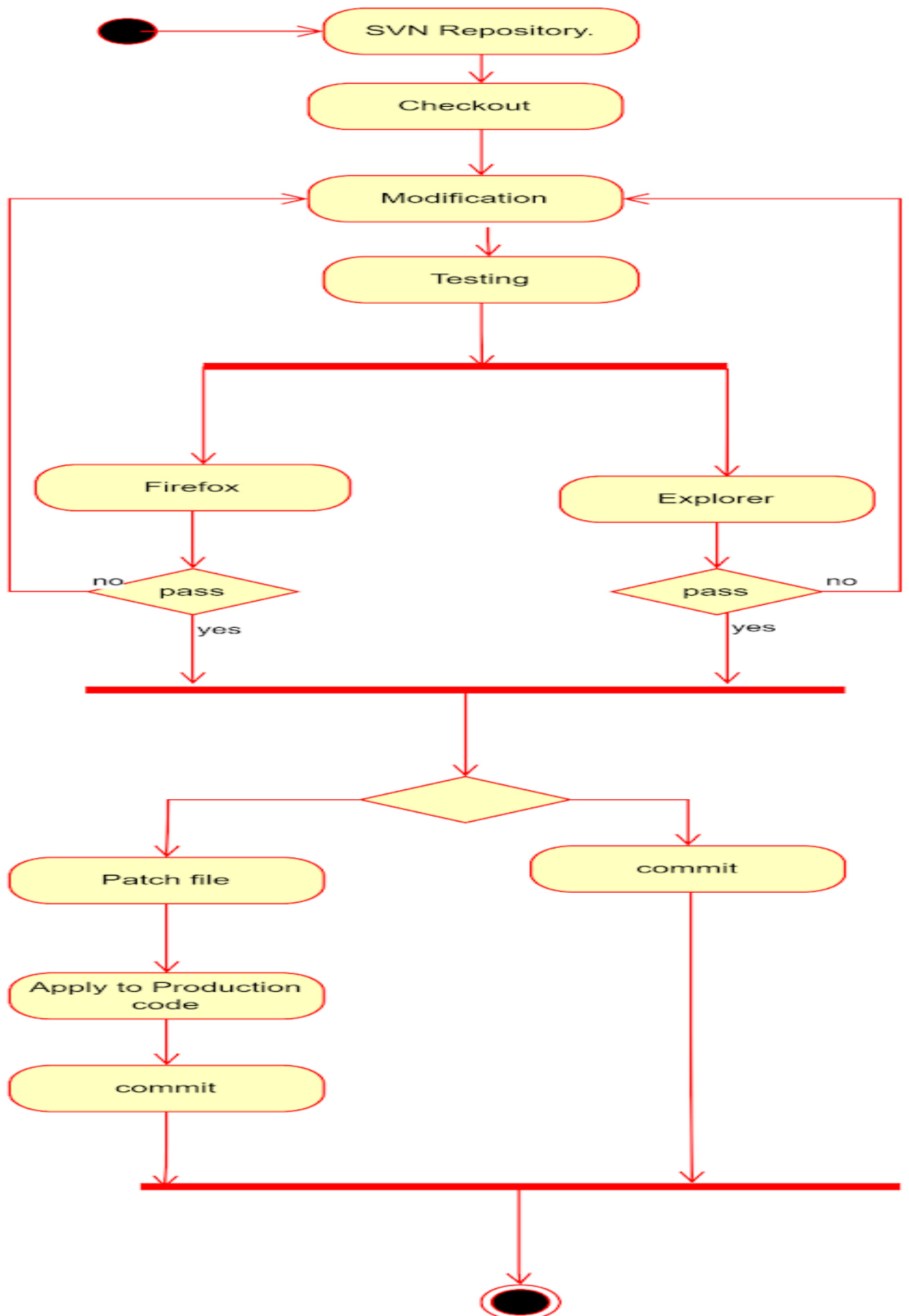
1) How would you represent testing of the application with multiple browsers?
- I will use FORK function to represent multiple browser.

2) Can generation of the patch file and update the Subversion repository be done concurrently?
- No

3) Can patching the production code and updating the Subversion repository be done in parallel?
- Applying Patch to Production Code: progress to this stage is possible after successfully generating the patch. Applying the patch to the production code completes the workflow. Committing Changes to SVN Repository: progress to this stage can only be made after the patch is applied to the production code. Committing the changes updates the SVN repository.

4) Identify the basic units of work, and visualize the work flow
- First, a copy of the repository is built, changes are made to the local code, and then it is performed concurrently in Firefox and Internet Explorer. If every browser passes the test, the procedure will run if the local copy is committed; if not, it will create a patch file, commit the local copy of the code, and then update the SVN repository.

5) Identify activities that could be done in parallel
- The checking of code in both browsers (Firefox and Internet Explorer) will be done parallelly.

6) Identify stages from where progress could be made only after a list of criteria is satisfied.
- The code must be changed if at least one of the two browsers (Internet Explorer and Firefox) fails the testing at the checking step.

- If the local copy is committed before creating a patch file, in which case the patch file cannot be created.

Q_2) Class Diagram