IT314 Software Engineering
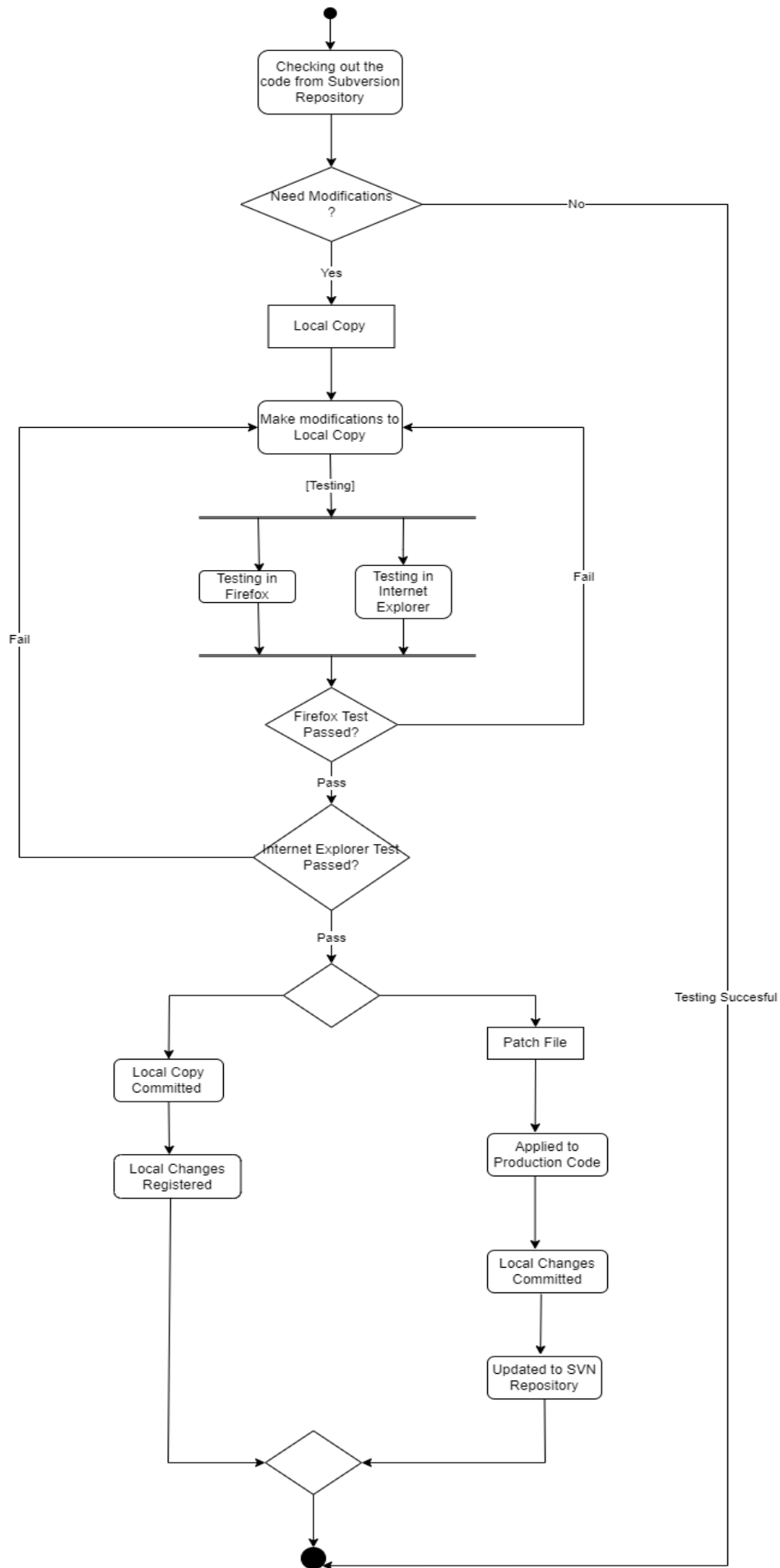
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Gr - 4

Q1. Activity Diagram

Draw an activity diagram to graphically represent the following workflow. Let us consider the development activities of SE Virtual Labs. The process begins by checking out the code from the Subversion repository. Necessarymodifications are then made to the checked out code (local copy). Once the developer is done with his changes, the application has to be tested to verify whether the new functionality is working fine. This test has to be performed with two of themore popular web browsers: Firefox and Internet Explorer, to support cross-browser accessibility. If testing fails in at least one of the two browsers, the developer goes back to his code, and fixes it. Only when all the browsers pass the test, a patch is generated from the local copy, and applied to the production code. The local copy is then committed resulting in an update of the SVN repository. Note that, if the local copy is committed before generating a patch file, then local changes would get registered, andone won't be further able to generate the patch file.

```
                              ●

                    ┌─────────────────────┐
                    │  Checking out the   │
                    │ code from Subversion│
                    │     Repository      │
                    └─────────────────────┘
                              │
                              ▼
                         ╱─────────╲
                        ╱  Need     ╲
                       ╱ Modifications╲──────────────────No──────────────────┐
                        ╲     ?      ╱                                        │
                         ╲─────────╱                                         │
                              │                                              │
                             Yes                                             │
                              ▼                                              │
                    ┌─────────────────────┐                                  │
                    │    Local Copy       │                                  │
                    └─────────────────────┘                                  │
                              │                                              │
                              ▼                                              │
         ┌──────────►┌─────────────────────┐◄──────────────────┐            │
         │           │ Make modifications to│                   │            │
         │           │     Local Copy       │                   │            │
         │           └─────────────────────┘                   │            │
         │                    │                                 │            │
         │                [Testing]                            Fail          │
         │                    │                                 │            │
         │           ━━━━━━━━━�━━━━━━━━━━━━                       │            │
         │              │            │                          │            │
         │              ▼            ▼                          │            │
         │        ┌──────────┐  ┌──────────┐                    │            │
         │        │Testing in│  │Testing in│                    │            │
         │        │ Firefox  │  │ Internet │                    │            │
         │        │          │  │ Explorer │                    │            │
         │        └──────────┘  └──────────┘                    │            │
        Fail          │            │                            │            │
         │           ━━━━━━━━━━━━━━━━━━━━                        │            │
         │                    │                                 │            │
         │                    ▼                                 │            │
         │               ╱─────────╲                            │            │
         │              ╱ Firefox   ╲──────────Fail─────────────┘            │
         │               ╲  Test    ╱                                        │
         │                ╲Passed? ╱                                         │
         │                 ╲─────╱                                           │
         │                    │                                             │
         │                  Pass                                            │
         │                    ▼                                             │
         │              ╱───────────╲                                       │
         └─────────────╱ Internet    ╲                                      │
                       ╲Explorer Test ╱                                     │
                        ╲  Passed?   ╱                                      │
                         ╲─────────╱                                       │
                              │                                           │
                            Pass                                          │
                              ▼                                           │
                         ╱─────────╲                                      │
              ┌─────────╱           ╲──────────┐                          │
              │         ╲           ╱          │                          │
              │          ╲─────────╱           │                   Testing Succesful
              ▼                                 ▼                          │
       ┌──────────────┐              ┌──────────────┐                      │
       │ Local Copy   │              │  Patch File  │                      │
       │ Committed    │              └──────────────┘                      │
       └──────────────┘                     │                             │
              │                              ▼                             │
              ▼                       ┌──────────────┐                     │
       ┌──────────────┐              │ Applied to   │                     │
       │Local Changes │              │Production Code│                    │
       │ Registered   │              └──────────────┘                     │
       └──────────────┘                     │                             │
              │                              ▼                             │
              │                       ┌──────────────┐                     │
              │                       │Local Changes │                     │
              │                       │ Committed    │                     │
              │                       └──────────────┘                     │
              │                              │                             │
              │                              ▼                             │
              │                       ┌──────────────┐                     │
              │                       │Updated to SVN│                     │
              │                       │ Repository   │                     │
              │                       └──────────────┘                     │
              │                              │                             │
              │            ╱─────────╲       │                             │
              └───────────╱           ╲◄─────┘                             │
                          ╲           ╱                                    │
                           ╲─────────╱                                     │
                                │                                          │
                                ▼                                          │
                                ●◄─────────────────────────────────────────┘
```

Q2. Class Diagram

Draw a class diagram for any one of the sprints by identifying objects, classes and their relationships.