```
DAOLayer
          ControllerLayer
                                           ServiceLayer
                                                                              Interface(I)
                                          Interface(I)
                                            企
                                                                                                                       Database
                                        class(C)
                                                                               class(C)
                                                                        Implementation is not ready
                                        Mockito(dummy class)
                                                                                   DEVELOPER
                                           DEVELOPER
                                         (UnitTesting)
                                                                                                    ThirdPartyService
         Developer
                                                                                                       PayTM
                            RESTAPI Z
        Day-1
Day-2
Day-3
mockito
         ;;;;;
        ;;;;;;
         Day-354; (paid service)

∨ MockitUnitTesting-LoginApp

                                                                                  public void testLoginWithValidCredentials() {
    Mockito.when(loginDaoMock.authenticate("root", "root123")).thenReturn(1);
    Assertions.assertTrue(service.login("root", "root123"));
     in.ineuron.nitin.dao
                           DAO without Implementation
   ILoginService.java
                               Service Layer with Implementation
                                                                                  public void testLoginWithInValidCredentials() {
         Mockito.when(loginDaoMock.authenticate("root", "root123@")).thenReturn(0);
         Assertions.assertFalse(service.login("root", "root123@"));
  src/test/java
 > 🛋 Maven Dependencies
   > 🗁 src
                                                                                   public void testLoginWithNoCredentials() {
   target
                                                                                        Mockito.when(loginDaoMock.authenticate("", "")).thenReturn(0);
Assertions.assertThrows(IllegalArgumentException.class, () -> service.login("",""));
   pom.xml
                                    @BeforeAll
                                    public static void setUpOnce() {
                                      // create a mock object for DAO class having null method Implementation
                                        loginDaoMock = Mockito.mock(ILoginDao.class);
System.out.println("Mock class object is :: " + loginDaoMock.getClass().getName()); Mock Object
                                                                                                                                                         Junit Result
                                         // Create Service class object by using Mock object
                                         loginService = new LoginServiceImpl(loginDaoMock);
                                                                                                                                       Runs: 3/3 Errors: 0

▼ TestLoginServiceImpl [Runner: JUnit 5] (0.066 s)

                                                                                                                                           testLoginWithValidCredentials() (0.045 s)
                                                                                                                                           testLoginWithNoCredentials() (0.014 s)
                                                                                                                                            testLoginWithInValidCredentials() (0.005 s)
      public class AnnotationTestLoginServiceImpl {
            private static ILoginDao loginDaoMock;
            private static ILoginDao loginDaoSpy;
                                                                                               Dealing with Mockito Annotations
            @InjectMocks
            private static LoginServiceImpl loginService;
            public AnnotationTestLoginServiceImpl() {
                MockitoAnnotations.openMocks(this);

→ MannotationTestLoginServiceImpl [Runner: JUnit 5] (0.084 s)

                                                                                                                                                                      testLoginWithValidCredentials() (0.065 s)

☐ testLoginWithNoCredentials() (0.003 s)
          public void testRegisterWithSpy() {
               ILoginDao loginDaoSpy = Mockito.spy(ILoginDao.class);
System.out.println("Spy object is :: " + loginDaoSpy.getClass().getName());
LoginServiceImpl loginService = new LoginServiceImpl(loginDaoSpy);
System.out.println("AnnotationTestLoginServiceImpl.testRegisterWithSpy() :: "+loginService);
                                                                                                                                                                      testLoginWithInValidCredentials() (0.001 s)
                                                                                                                                                                      testRegisterWithSpy() (0.009 s)
               loginService.registerUser("sachin", "admin");
loginService.registerUser("dhoni", "visitor");
loginService.registerUser("kohli", "");
               Mockito.verify(loginDaoSpy, Mockito.times(1)).addUser("sachin", "admin");
Mockito.verify(loginDaoSpy, Mockito.times(0)).addUser("dhoni", "visitor");
Mockito.verify(loginDaoSpy, Mockito.never()).addUser("kohli", "");
```