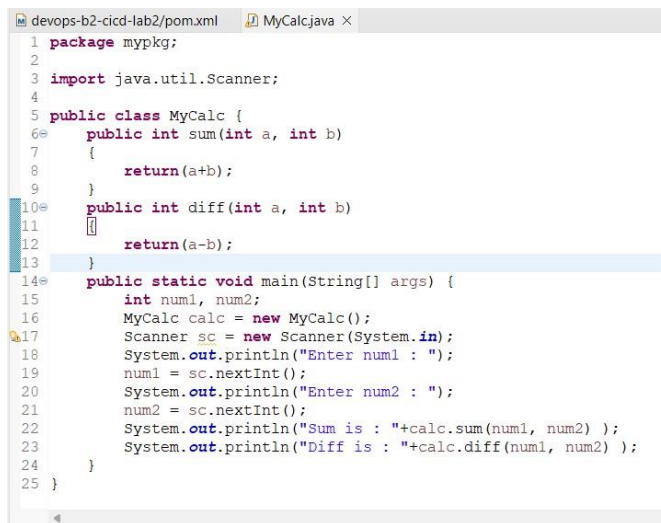# 500093657, R2142210596, DEVOPS B2 3RD YEAR EXPERIMENT – 2

Aim: Creating a Jenkins Pipeline with a Jenkins file.

1. Create a Maven Project in eclipse.

```java
package mypkg;

import java.util.Scanner;

public class MyCalc {
    public int sum(int a, int b)
    {
        return(a+b);
    }
    public int diff(int a, int b)
    {
        return(a-b);
    }
    public static void main(String[] args) {
        int num1, num2;
        MyCalc calc = new MyCalc();
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter num1 : ");
        num1 = sc.nextInt();
        System.out.println("Enter num2 : ");
        num2 = sc.nextInt();
        System.out.println("Sum is : "+calc.sum(num1, num2) );
        System.out.println("Diff is : "+calc.diff(num1, num2) );
    }
}
```

```xml
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w
    <modelVersion>4.0.0</modelVersion>
    <groupId>devops-b2-cicd-lab2</groupId>
    <artifactId>devops-b2-cicd-lab2</artifactId>
    <version>0.0.1-SNAPSHOT</version>

    <properties>
        <maven.compiler.source>17</maven.compiler.source>
        <maven.compiler.target>17</maven.compiler.target>
    </properties>


</project>
```

2. Push the project on GitHub and add the Maven integration and Git plugin in Jenkins, config the repo and make a build

Maven Integration 3.20

This plugin provides a deep integration between Jenkins and Maven. It adds support for automatic triggers between projects depending on
SNAPSHOTs as well as the automated configuration of various Jenkins publishers such as Junit.
Report an issue with this plugin

Git 5.0.0

This plugin integrates Git with Jenkins.
Report an issue with this plugin

Maven
Name

```
MAVEN_HOME
```

✓ Install automatically ?

☰ Install from Apache

Version

```
3.9.2
```

Add Installer ▾

```
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-arch1
520 kB/s)
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compr
1.2 MB/s)
[INFO] Building jar: C:\ProgramData\Jenkins\.jenkins\workspace\cicd-b2-lab2\target\devops-b2-cicd-lab
[INFO]
[INFO] --- install:3.1.0:install (default-install) @ devops-b2-cicd-lab2 ---
[INFO] Installing C:\ProgramData\Jenkins\.jenkins\workspace\cicd-b2-lab2\pom.xml to C:\WINDOWS\system
b2-cicd-lab2\devops-b2-cicd-lab2\0.0.1-SNAPSHOT\devops-b2-cicd-lab2-0.0.1-SNAPSHOT.pom
[INFO] Installing C:\ProgramData\Jenkins\.jenkins\workspace\cicd-b2-lab2\target\devops-b2-cicd-lab2-0
C:\WINDOWS\system32\config\systemprofile\.m2\repository\devops-b2-cicd-lab2\devops-b2-cicd-lab2\0.0.1
SNAPSHOT.jar
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  10.193 s
```

3. Edit the code, add the mul function and add Poll SCM in Jenkins configuration then again commit and push it.

```java
public int mul(int a, int b)
{
    return(a*b);
}
```

| ✓ #2 | Oct 6, 2023, 7:18 AM |
| ✓ #1 | Oct 6, 2023, 7:10 AM |

4. Add Jenkins file then commit and push it, In Jenkins make pipeline add configure it. When created, the pipeline will start.

devops-b2-cicd-lab2/pom.xml 📄 MyCalc.java 📄 *Jenkinsfile ×

```
1 pipeline {
2     agent any
3     tools {
4     maven 'MAVEN_HOME'
5     }
6     stages {
7         stage('Stage1: Hello Clean Stage 1') {
8             steps {
9                 bat 'mvn clean'
10                 }
11             }
12         stage ('Stage 2: Test Stage') {
13             steps {
14                 bat 'mvn test'
15                 }
16             }
17         stage ('Stage 3: My Package'){
18             steps {
19                 bat 'mvn package'
20                 }
21             }
22         stage ('Stage 4: My Final Build Stage'){
23             steps {
24                 bat 'mvn install'
25                 }
26             }
27         stage ('Stage Final: Build Success'){
28             steps {
29                 echo  'Build Success!'
30                 }
31             }
32         }
33     }
```

Enter an item name

cicd-jenkins-pipeline-lab

» Required field

Freestyle project
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

Maven project
Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the configuration.

Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

Pipeline

Definition

Pipeline script from SCM   ⌄

SCM ?

Git   ⌄

Repositories ?

Stage View

	Declarative: Checkout SCM	Declarative: Tool Install	Stage1: Hiii Clean Stage 1 testing	Stage 3: My Package	Stage 4: My Final Build Stage	Stage Final: Build Success
Average stage times: (Average full run time: ~19s)	2s	153ms	4s	5s	4s	234ms
#8 Oct 06 09:17 — 2 commits	2s	153ms	4s	5s	4s	234ms