Name of the Course : Java for beginners: Step–by–step hands-on guide to Java

Level : Easy

Tool Stack : Encapsulation, Access specifier

Problem Statement : DreamTek Company provides an initial training for all its employees, once they join the company. During the training phase they call the employees as “Associate”. The initial training is conducted for 60 days for each Associate. In these 60 days they learn various technologies. The first 20 days they learn “Core skills”, the next 20 days they learn “Advanced modules” and the final 20 days they go to the “Project phase”. Help the DreamTek Company to find in which phase the associates are in.

Description : In the Associate class include the given attributes and methods with the access specifiers as specified in the class diagram.

The setter methods are used to set the value and the getter methods are used to retrieve the value.

The trackAssociateStatus() method takes the number of days as argument and sets the work status of the associate based on the number of days. If the number of days is greater than 60 days then set the work status as “Deployed in project”.

In the Main class, create an object for the Associate class; Get the details as shown in the sample input and assign the value for its attributes using the setters.

Invoke the trackAssociateStatus() method and find the work status and display the details as shown in the sample output.

**Code:**

**public** **class** Associate{

**private** **int** associateId;

**private** String associateName;

**private** String workStatus;

**public** **int** getAssociateId() {

**return** associateId;

}

**public** **void** setAssociateId(**int** n) {

**this**.associateId = associateId;

}

**public** String getAssociateName() {

**return** associateName;

}

**public** **void** setAssociateName(String associateName) {

**this**.associateName = associateName;

}

**public** String getWorkStatus() {

**return** workStatus;

}

**public** **void** setWorkStatus(String workStatus) {

**this**.workStatus = workStatus;

}

**public** String trackAssociateStatus(**int** d){

String work;

**if**(d<=20)

{

work="Core skills";

}

**else** **if**(d>20 && d<=40)

{

work="Advanced modules";

}

**else** **if**(d>40 && d<=60)

{

work="Project phase";

}

**else**

{

work="Deployed in project";

}

setWorkStatus(work);

System.***out***.println("The associate "+getAssociateName()+" work status:"+getWorkStatus());

**return** work;

}

}

**import** java.util.Scanner;

**public** **class** Main {

**public** **static** **void** main(String[] args) {

Scanner sc=**new** Scanner(System.***in***);

Associate obj=**new** Associate();

System.***out***.println("Enter the associate id:");

**int** n=sc.nextInt();

obj.setAssociateId(n);

System.***out***.println("Enter the associate name:");

String nm=sc.next();

obj.setAssociateName(nm);

System.***out***.println("Enter the number of days:");

**int** d=sc.nextInt();

obj.trackAssociateStatus(d);

}

}

Junit Testing

**import** **static** org.junit.Assert.*assertEquals*;

**import** **static** org.junit.jupiter.api.Assertions.\*;

**import** org.junit.jupiter.api.Test;

**class** MainTest {

@Test

**void** testTrackAssociateStatus() {

String output1="Project phase";

String output2="Deployed in project";

Associate a=**new** Associate();

a.setAssociateName("john"); *assertEquals*(output1,a.trackAssociateStatus(45) );

a.setAssociateName("ram"); *assertEquals*(output2,a.trackAssociateStatus(70) );

}

}

Test Data1

Enter the associate id:

123

Enter the associate name:

john

Enter the number of days:

45

The associate john work status: Project phase

Test Data2

Enter the associate id:

124

Enter the associate name:

ram

Enter the number of days:

70

The associate ram work status: Deployed in project

Learning outcome: Participant could able to learn how to use access specifiers with getter and setter methods.