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**Sub: CA314: Object Oriented Programming through JAVA**

**Practical Assignment-7**

**Packages & Wrapper Class**

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ID: 19BCA063

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1. Write a Package TYBCA which has two classes Subject andMarks.

Subject Class is for accepting Subjects and Marks class is to accept marks.

Create a main class which will use package and calculate total marks and percentage.

\*/

//Subject Class

package TYBCA;

import java.util.Scanner;

public class Subject {

public

String sub1,sub2,sub3,sub4,sub5;

public void GetSubject()

{

Scanner Scan=new Scanner(System.in);

System.out.println("\n\n");

System.out.println("Enter Name of Subject 1: ");

sub1=Scan.nextLine();

System.out.println("Enter Name of Subject 2: ");

sub2=Scan.nextLine();

System.out.println("Enter Name of Subject 3: ");

sub3=Scan.nextLine();

System.out.println("Enter Name of Subject 4: ");

sub4=Scan.nextLine();

System.out.println("Enter Name of Subject 5: ");

sub5=Scan.nextLine();

}

}

//Class Marks

package TYBCA;

import java.util.Scanner;

public class Marks {

public

int m1,m2,m3,m4,m5;

public void GetMarks()

{

Scanner Scan=new Scanner(System.in);

Subject s=new Subject();

s.GetSubject();

System.out.println("\n\n");

System.out.println("Enter The Marks Of Subject "+s.sub1+": ");

m1=Integer.parseInt(Scan.nextLine());

System.out.println("Enter The Marks Of Subject "+s.sub2+": ");

m2=Integer.parseInt(Scan.nextLine());

System.out.println("Enter The Marks Of Subject "+s.sub3+": ");

m3=Integer.parseInt(Scan.nextLine());

System.out.println("Enter The Marks Of Subject "+s.sub4+": ");

m4=Integer.parseInt(Scan.nextLine());

System.out.println("Enter The Marks Of Subject "+s.sub5+": ");

m5=Integer.parseInt(Scan.nextLine());

}

}

//Class With Main Method

package TYBCA;

public class Assignment7\_1 {

public static void main(String[] args) {

Marks m=new Marks();

m.GetMarks();

System.out.println("\n\n");

int Total=0;

Total=m.m1+m.m2+m.m3+m.m4+m.m5;

Double per;

per=(Total/5.0);

System.out.println("Total of All Subjects Are: "+Total);

System.out.println("Percentage is: "+per);

}

}

/\*

2. Write a java program to create two packages.

In first package create employee class with employee number, name & salary.

In second package create a class manager which is subclass of employee class having fields as department name & incentive.

Create main class which will import these packages & display gross salary.

\*/

//Class Employee In First Package

package First;

import java.util.Scanner;

public class Employee {

public

int Employee\_No;

public

String Name;

public

double salary;

Scanner Scan=new Scanner(System.in);

public void GetEmpDetails()

{

System.out.println("\nEnter Your Employee Number: ");

Employee\_No=Integer.parseInt(Scan.nextLine());

System.out.println("\nEnter Employee Name: ");

Name=Scan.nextLine();

System.out.println("\nEnter Salary: ");

salary=Double.parseDouble(Scan.nextLine());

}

}

// Class Manager in Second Package inherited from Employee

package Second;

import java.util.Scanner;

import First.\*;

public class Manager extends Employee {

public

String Department\_name;

public

double incentive;

Scanner Scan=new Scanner(System.in);

public void GetDeptDetails()

{

super.GetEmpDetails();

System.out.println("\nEnter the Department Name: ");

Department\_name=Scan.nextLine();

System.out.println("Enter the Incentive: ");

incentive=Double.parseDouble(Scan.nextLine());

}

}

//Main Class in another Package

package Main;

import Second.\*;

public class Assignment7\_2 {

public static void main(String[] args) {

Manager m=new Manager();

m.GetDeptDetails();

double Gross\_Salary= m.salary+m.incentive;

System.out.println("Your Gross Salary is: "+Gross\_Salary);

}

}

/\*

3. Write a program to access the public, protected, private and default member of a class in the same package

and also in different package.

\*/

//Declaration of All Access Specifiers Variables

package Question3;

public class MainDeclaration {

public

int a=10;

protected

int b=20;

private

int c=30;

int d=40;

}

//Trying To Access All the variables from Same Package…

package Question3;

public class SamePackage {

MainDeclaration md=new MainDeclaration();

public void Access()

{

System.out.println("A: "+md.a); //Public is Accessible in Same Package

System.out.println("B: "+md.b); //Protected is Accessible in Same Package

System.out.println("C: "+md.c); //Private is Not Accessible in Same Package

System.out.println("D: "+md.d); //Default is Accessible in Same Package

}

}

//Tryng to Access All The Variables from Another Package…

package Question3\_2;

import Question3.\*;

public class AnotherPackage {

MainDeclaration md=new MainDeclaration();

public void Access()

{

System.out.println("A: "+md.a); //Public is Accessible in Another Package

System.out.println("B: "+md.b); //Protected is Not Accessible in Another Package

System.out.println("C: "+md.c); //Private is Not Accessible in Another Package

System.out.println("D: "+md.d); //Default is Not Accessible in Another Package

}

}

/\*

4. Write a Java program to create a package for Book details having Book Name, Price and Author name

and import the created package using importing package where we can create the object of classes

in this package and access the method of that class.

\*/

//Created Class Book in One class

package Book;

import java.util.Scanner;

public class Book {

Scanner sc=new Scanner(System.in);

public

String Name,AuthorName;

public

int price;

public void GetBookDetails()

{

System.out.println("Enter Name of Book: ");

Name=sc.nextLine();

System.out.println("Enter Price of Book: ");

price=Integer.parseInt(sc.nextLine());

System.out.println("Enter Name of the Author ");

AuthorName=sc.nextLine();

}

}

//Created another class Consist of main Method in Another Package.

package MainOfQ4;

import Book.Book;

public class Assignment7\_4 {

public static void main(String[] args) {

Book obj=new Book();

obj.GetBookDetails();

}

}

/\*

5. Write a program to demonstrate wrapper class while performing auto boxing and unboxing.

\*/

package Last;

public class Assignment7\_5 {

public static void main(String[] args) {

Integer i = new Integer(10);

int i1 = i;

System.out.println("Value of i: " + i);

System.out.println("Value of i1: " + i1);

Character Bca19\_63 = 'A';

// Auto-unboxing of Character

char ch = Bca19\_63;

System.out.println("Value of ch: " + ch);

System.out.println("Value of Bca19\_63: " + Bca19\_63);

}

}