**Task 4**

Write a Java program that includes a class Student with the following constructors and methods:

1. **Default Constructor** – Initializes the student’s id, name, marks, and grade to default values.
2. **Parameterized Constructor** – Initializes the student’s id, name, marks, and calculates the grade based on the given marks.
3. **Copy Constructor** – Creates a new Student object by copying the details from an existing Student object.
4. **Method displayInfo()** – Displays the student's details (id, name, marks, and grade).
5. **Method calculateGrade()** – Calculates the student's grade based on marks. The grade is assigned as follows:
   * A for marks >= 90
   * B for marks >= 80
   * C for marks >= 70
   * D for marks >= 60
   * F for marks < 60
6. **Method updateMarks(double newMarks)** – Updates the student's marks and recalculates the grade.

package com.company;  
  
class Student {  
 int id;  
 String name;  
 double marks;  
 char grade;  
  
 *// Default Constructor* Student() {  
 id = 0;  
 name = "Unknown";  
 marks = 0.0;  
 grade = 'F';  
 }  
  
 *// Parameterized Constructor* Student(int id, String name, double marks) {  
 this.id = id;  
 this.name = name;  
 this.marks = marks;  
 this.grade = calculateGrade();  
 }  
  
 *// Copy Constructor* Student(Student s) {  
 this.id = s.id;  
 this.name = s.name;  
 this.marks = s.marks;  
 this.grade = s.grade;  
 }  
  
 *// Method to display student info* void displayInfo() {  
 System.*out*.println("ID: " + id);  
 System.*out*.println("Name: " + name);  
 System.*out*.println("Marks: " + marks);  
 System.*out*.println("Grade: " + grade);  
 }  
  
 *// Method to calculate grade based on marks* char calculateGrade() {  
 if (marks >= 90) return 'A';  
 else if (marks >= 80) return 'B';  
 else if (marks >= 70) return 'C';  
 else if (marks >= 60) return 'D';  
 else return 'F';  
 }  
  
 *// Method to update marks and recalculate grade* void updateMarks(double newMarks) {  
 this.marks = newMarks;  
 this.grade = calculateGrade();  
 }  
}  
  
public class Main {  
 public static void main(String[] args) {  
 *// Using Default Constructor* Student student1 = new Student();  
 student1.displayInfo();  
  
 System.*out*.println();  
  
 *// Using Parameterized Constructor* Student student2 = new Student(101, "Muqaddas Tanzeel", 89.5);  
 student2.displayInfo();  
  
 System.*out*.println();  
  
 *// Using Copy Constructor* Student student3 = new Student(student2);  
 student3.displayInfo();  
  
 System.*out*.println("\nUpdating marks of student3...");  
 student3.updateMarks(92.0);  
 student3.displayInfo();  
 }  
}





