1)Code:

```
class Employee {
    private String name;
    private int idNumber;
    private String department;
    private String position;

    public Employee(String name, int idNumber, String department, String
position) {
        this.name = name;
        this.idNumber = idNumber;
        this.department = department;
        this.position = position;
    }

    public Employee(String name, int idNumber) {
        this.name = name;
        this.idNumber = idNumber;
        this.department = "";
        this.position = "";
    }

    public Employee() {
        this.name = "";
        this.idNumber = 0;
        this.department = "";
        this.position = "";
    }

    public void setName(String name) {
        this.name = name;
    }

    public void setIdNumber(int idNumber) {
        this.idNumber = idNumber;
    }

    public void setDepartment(String department) {
        this.department = department;
    }

    public void setPosition(String position) {
        this.position = position;
    }

    public String getName() {
        return name;
```

```
    }

    public int getIdNumber() {
        return idNumber;
    }

    public String getDepartment() {
        return department;
    }

    public String getPosition() {
        return position;
    }
}

public class Main {
    public static void main(String[] args) {
Employee employee1 = new Employee("Susan Meyers", 47899, "Accounting", "Vice
President");
        Employee employee2 = new Employee("Mark Jones", 39119);
        Employee employee3 = new Employee();

        employee2.setDepartment("IT");
        employee2.setPosition("Programmer");

        employee3.setName("Joy Rogers");
        employee3.setIdNumber(81774);
        employee3.setDepartment("Manufacturing");
        employee3.setPosition("Engineer");

        System.out.println("Employee 1:");
        System.out.println("Name: " + employee1.getName());
        System.out.println("ID Number: " + employee1.getIdNumber());
        System.out.println("Department: " + employee1.getDepartment());
        System.out.println("Position: " + employee1.getPosition());
        System.out.println();

        System.out.println("Employee 2:");
        System.out.println("Name: " + employee2.getName());
        System.out.println("ID Number: " + employee2.getIdNumber());
        System.out.println("Department: " + employee2.getDepartment());
        System.out.println("Position: " + employee2.getPosition());
        System.out.println();

        System.out.println("Employee 3:");
        System.out.println("Name: " + employee3.getName());
        System.out.println("ID Number: " + employee3.getIdNumber());
        System.out.println("Department: " + employee3.getDepartment());
```

```
        System.out.println("Position: " + employee3.getPosition());
    }
}
```

Output:

```
Employee 1:
Name: Susan Meyers
ID Number: 47899
Department: Accounting
Position: Vice President

Employee 2:
Name: Mark Jones
ID Number: 39119
Department: IT
Position: Programmer

Employee 3:
Name: Joy Rogers
ID Number: 81774
Department: Manufacturing
Position: Engineer
```

2)Code:

```
class Car {
    private int yearModel;
    private String make;
    private int speed;

    public Car(int yearModel, String make) {
        this.yearModel = yearModel;
        this.make = make;
        this.speed = 0;
    }

    public int getYearModel() {
        return yearModel;
    }

    public String getMake() {
        return make;
    }
```

```
    public int getSpeed() {
        return speed;
    }

    public void accelerate() {
        speed += 5;
    }

    public void brake() {
        speed -= 5;
        if (speed < 0) {
            speed = 0;
        }
    }
}

public class Main {
    public static void main(String[] args) {
        Car car = new Car(2023, "Toyota");

        System.out.println("Car Details:");
        System.out.println("Year Model: " + car.getYearModel());
        System.out.println("Make: " + car.getMake());

        System.out.println("\nAccelerating:");
        for (int i = 0; i < 5; i++) {
            car.accelerate();
            System.out.println("Current Speed: " + car.getSpeed() + " mph");
        }

        System.out.println("\nBraking:");
        for (int i = 0; i < 5; i++) {
            car.brake();
            System.out.println("Current Speed: " + car.getSpeed() + " mph");
        }
    }
}
```

Output:

```
Car Details:
Year Model: 2023
Make: Toyota

Accelerating:
Current Speed: 5 mph
Current Speed: 10 mph
Current Speed: 15 mph
Current Speed: 20 mph
Current Speed: 25 mph

Braking:
Current Speed: 20 mph
Current Speed: 15 mph
Current Speed: 10 mph
Current Speed: 5 mph
Current Speed: 0 mph
PS C:\Users\Alis\Desktop\pp
```

3)Code:

```java
class PersonalInformation {
    private String name;
    private String address;
    private int age;
    private String phoneNumber;

    public PersonalInformation(String name, String address, int age, String
phoneNumber) {
        this.name = name;
        this.address = address;
        this.age = age;
        this.phoneNumber = phoneNumber;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
```

```
    }

    public int getAge() {
        return age;
    }

    public void setAge(int age) {
        this.age = age;
    }

    public String getPhoneNumber() {
        return phoneNumber;
    }

    public void setPhoneNumber(String phoneNumber) {
        this.phoneNumber = phoneNumber;
    }
}

public class Main {
    public static void main(String[] args) {
        PersonalInformation myInfo = new PersonalInformation("Your Name",
"Your Address", 25, "123-456-7890");
        PersonalInformation friend1Info = new PersonalInformation("Friend 1",
"Address 1", 30, "111-222-3333");
        PersonalInformation friend2Info = new PersonalInformation("Friend 2",
"Address 2", 28, "444-555-6666");

        System.out.println("My Information:");
        System.out.println("Name: " + myInfo.getName());
        System.out.println("Address: " + myInfo.getAddress());
        System.out.println("Age: " + myInfo.getAge());
        System.out.println("Phone Number: " + myInfo.getPhoneNumber());
        System.out.println();

        System.out.println("Friend 1's Information:");
        System.out.println("Name: " + friend1Info.getName());
        System.out.println("Address: " + friend1Info.getAddress());
        System.out.println("Age: " + friend1Info.getAge());
        System.out.println("Phone Number: " + friend1Info.getPhoneNumber());
        System.out.println();

        System.out.println("Friend 2's Information:");
        System.out.println("Name: " + friend2Info.getName());
        System.out.println("Address: " + friend2Info.getAddress());
        System.out.println("Age: " + friend2Info.getAge());
        System.out.println("Phone Number: " + friend2Info.getPhoneNumber());
    }
```

```
}
```

Output:

```
My Information:
Name: Your Name
Address: Your Address
Age: 25
Phone Number: 123-456-7890

Friend 1's Information:
Name: Friend 1
Address: Address 1
Age: 30
Phone Number: 111-222-3333

Friend 2's Information:
Name: Friend 2
Address: Address 2
Age: 28
Phone Number: 444-555-6666
```

4)Code:

```
import java.util.Scanner;

class Payroll {
    private String name;
    private int idNumber;
    private double hourlyPayRate;
    private double hoursWorked;

    public Payroll(String name, int idNumber) {
        this.name = name;
        this.idNumber = idNumber;
    }

    public void setHourlyPayRate(double hourlyPayRate) {
        this.hourlyPayRate = hourlyPayRate;
    }

    public void setHoursWorked(double hoursWorked) {
        this.hoursWorked = hoursWorked;
    }
```

```
    public double getGrossPay() {
        return hourlyPayRate * hoursWorked;
    }
}

public class Test {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter employee's name: ");
        String name = scanner.nextLine();

        System.out.print("Enter employee's ID number: ");
        int idNumber = scanner.nextInt();

        Payroll payroll = new Payroll(name, idNumber);

        System.out.print("Enter hourly pay rate: ");
        double hourlyPayRate = scanner.nextDouble();
        payroll.setHourlyPayRate(hourlyPayRate);

        System.out.print("Enter number of hours worked: ");
        double hoursWorked = scanner.nextDouble();
        payroll.setHoursWorked(hoursWorked);

        double grossPay = payroll.getGrossPay();
        System.out.println("Employee's gross pay: $" + grossPay);

        scanner.close();
    }
}
```

Output:

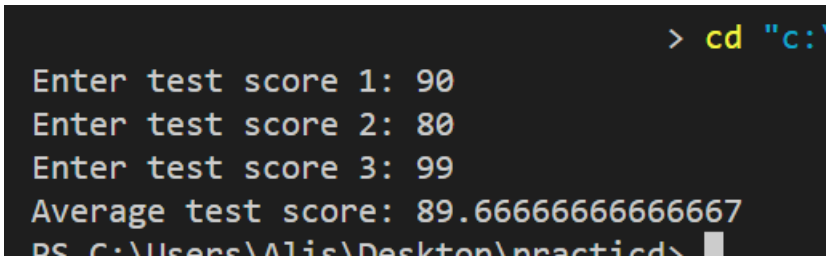
```
Enter employee's name: James
Enter employee's ID number: 12345
Enter hourly pay rate: 90
Enter number of hours worked: 100
Employee's gross pay: $9000.0
```

5)Code:

```
import java.util.Scanner;

class TestScores {
    private double testScore1;
    private double testScore2;
```

```
    private double testScore3;

    public TestScores(double testScore1, double testScore2, double testScore3)
{
        this.testScore1 = testScore1;
        this.testScore2 = testScore2;
        this.testScore3 = testScore3;
    }

    public void setTestScore1(double testScore1) {
        this.testScore1 = testScore1;
    }

    public void setTestScore2(double testScore2) {
        this.testScore2 = testScore2;
    }

    public void setTestScore3(double testScore3) {
        this.testScore3 = testScore3;
    }

    public double getAverage() {
        return (testScore1 + testScore2 + testScore3) / 3.0;
    }
}

public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter test score 1: ");
        double testScore1 = scanner.nextDouble();

        System.out.print("Enter test score 2: ");
        double testScore2 = scanner.nextDouble();

        System.out.print("Enter test score 3: ");
        double testScore3 = scanner.nextDouble();

        TestScores scores = new TestScores(testScore1, testScore2,
testScore3);

        double average = scores.getAverage();
        System.out.println("Average test score: " + average);

        scanner.close();
    }
}
```

Output:



6)Code:

```java
import java.util.Scanner;

class Circle {
    private double radius;
    private final double PI = 3.14159;

    public Circle(double radius) {
        this.radius = radius;
    }

    public Circle() {
        this.radius = 0.0;
    }

    public void setRadius(double radius) {
        this.radius = radius;
    }

    public double getRadius() {
        return radius;
    }

    public double getArea() {
        return PI * radius * radius;
    }

    public double getDiameter() {
        return radius * 2;
    }

    public double getCircumference() {
        return 2 * PI * radius;
    }
}
```

```java
public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the radius of the circle: ");
        double radius = scanner.nextDouble();

        Circle circle = new Circle(radius);

        System.out.println("Circle Information:");
        System.out.println("Radius: " + circle.getRadius());
        System.out.println("Area: " + circle.getArea());
        System.out.println("Diameter: " + circle.getDiameter());
        System.out.println("Circumference: " + circle.getCircumference());

        scanner.close();
    }
}
```

Output:

```
Enter the radius of the circle: 7.5
Circle Information:
Radius: 7.5
Area: 176.7144375
Diameter: 15.0
Circumference: 47.12385
```

7)Code:

```java
import java.util.Scanner;

class MonthDays {
    private int month;
    private int year;

    public MonthDays(int month, int year) {
        this.month = month;
        this.year = year;
    }

    public int getNumberOfDays() {
        if (month < 1 || month > 12) {
            return -1;
        }

        if (month == 2) {
```

```
            if ((year % 100 == 0 && year % 400 == 0) || (year % 100 != 0 &&
year % 4 == 0)) {
                return 29;
            } else {
                return 28;
            }
        } else if (month == 4 || month == 6 || month == 9 || month == 11) {
            return 30;
        } else {
            return 31;
        }
    }
}

public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter a month (1-12): ");
        int month = scanner.nextInt();

        System.out.print("Enter a year: ");
        int year = scanner.nextInt();

        MonthDays monthDays = new MonthDays(month, year);
        int numberOfDays = monthDays.getNumberOfDays();

        if (numberOfDays == -1) {
            System.out.println("Invalid month entered.");
        } else {
            System.out.println(numberOfDays + " days");
        }

        scanner.close();
    }
}
```

Output:

```
Enter a month (1-12): 7
Enter a year: 2008
31 days
```