Part 13: Enum - Java Challenges & Code

1. Define an enum for days of the week

```java
public class DaysOfWeekEnum {
    enum Day {
        SUNDAY, MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY
    }

    public static void main(String[] args) {
        for (Day d : Day.values()) {
            System.out.println(d);
        }
    }
}
```

2. Use enum in switch case

```java
public class EnumSwitch {
    enum Day {
        MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY, SUNDAY
    }

    public static void main(String[] args) {
        Day today = Day.WEDNESDAY;

        switch (today) {
            case MONDAY -> System.out.println("Start of the week!");
            case FRIDAY -> System.out.println("Almost weekend!");
            case SUNDAY -> System.out.println("Rest day!");
            default -> System.out.println("Midweek day");
        }
    }
}
```

3. Iterate over enum values

```java
public class EnumIteration {
    enum Season {
        SPRING, SUMMER, FALL, WINTER
    }

    public static void main(String[] args) {
        for (Season s : Season.values()) {
            System.out.println(s);
        }
    }
}
```

4. Assign properties to enum constants

```java
public class EnumWithProperties {
```

```java
    enum Planet {
        MERCURY(3.303e+23, 2.4397e6),
        VENUS(4.869e+24, 6.0518e6),
        EARTH(5.976e+24, 6.37814e6);

        private final double mass;
        private final double radius;

        Planet(double mass, double radius) {
            this.mass = mass;
            this.radius = radius;
        }

        public double surfaceGravity() {
            final double G = 6.67300E-11;
            return G * mass / (radius * radius);
        }

        public double getMass() { return mass; }
        public double getRadius() { return radius; }
    }

    public static void main(String[] args) {
        for (Planet p : Planet.values()) {
                System.out.printf("%s: mass = %.2e, radius = %.2f%n", p, p.getMass(),
p.getRadius());
        }
    }
}
```

5. Create an enum to represent traffic light states

```java
public class TrafficLightEnum {
    enum TrafficLight {
        RED, YELLOW, GREEN
    }

    public static void main(String[] args) {
        TrafficLight signal = TrafficLight.RED;

        switch (signal) {
            case RED -> System.out.println("Stop");
            case YELLOW -> System.out.println("Get Ready");
            case GREEN -> System.out.println("Go");
        }
    }
}
```