TestNotes/pset2/Ship.java

```java
// Ship.java

/**
 * PSET2 #5
 * Abstract class representing generic Ship with properties like name, yearBuilt, and
 engineType.
 * It also defines an enum EngineType to categorize ship engine types.
 * Subclasses CruiseShip and CargoShip inherit from this class.
 *
 * @author Kuljit Takhar
 * @version October 7, 2023
 *
 */

/**
 * Public abstract class representing a Ship
 */

public abstract class Ship {
    private String name;
    private int yearBuilt;
    private EngineType engineType;

    public enum EngineType {
        STEAM_ENGINE, STEAM_TURBINE, GAS_TURBINE, DIESEL, ELECTRIC, WIND, HUMAN_FORCE
    }

    public Ship(String name, int yearBuilt, EngineType engineType) {
        this.name = name;
        this.yearBuilt = yearBuilt;
        this.engineType = engineType;
    }

    public String getName() {
        return name;
    }

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

    public int getYearBuilt() {
        return yearBuilt;
    }

    public void setYearBuilt(int yearBuilt) {
        this.yearBuilt = yearBuilt;
    }

    public EngineType getEngineType() {
        return engineType;
    }
```

```java
53      public void setEngineType(EngineType engineType) {
54          this.engineType = engineType;
55      }
56
57      @Override
58      public String toString() {
59          return "Ship Name: " + name + ", Engine Type: " + engineType + ", Year Built:
    " + yearBuilt;
60      }
61  }
62
63  /**
64   * Subclass representing a CruiseShip
65   */
66
67  class CruiseShip extends Ship {
68      private int maxPassengers;
69      private boolean hasNorovirus;
70
71      // Constructor to initialize CruiseShip properties
72      public CruiseShip(String name, int yearBuilt, EngineType engineType, int
    maxPassengers, boolean hasNorovirus) {
73          super(name, yearBuilt, engineType);
74          this.maxPassengers = maxPassengers;
75          this.hasNorovirus = hasNorovirus;
76      }
77
78      // Getter and setter methods for maxPassengers and hasNorovirus
79      @Override
80      public String toString() {
81          return "Cruise Ship Name: " + getName() + ", Max Passengers: " +
    maxPassengers;
82      }
83  }
84
85  /**
86   * Subclass representing a CargoShip
87   */
88
89  class CargoShip extends Ship {
90      private double cargoCapacity;
91
92      // Constructor to initialize CargoShip properties
93      public CargoShip(String name, int yearBuilt, EngineType engineType, double
    cargoCapacity) {
94          super(name, yearBuilt, engineType);
95          this.cargoCapacity = cargoCapacity;
96      }
97
98      // Getter and setter methods for cargoCapacity
99      @Override
100     public String toString() {
101         return "Cargo Ship Name: " + getName() + ", Cargo Capacity: " + cargoCapacity
    + " tons";
102     }
103 }
104
```