**GrandParent Class**

| Transportation |
| --- |
| * name : String * averageSpeed : double * cost : double * purchaseType : String * purchased : boolean * numPurchased : int * maxPassengers : int * travelInstructions : String |
| Constructor: Transportation(name: String, averageSpeed: double, cost: double, rental : boolean, maxPassengers : int)   * getName() : String * setName(name : String) * getAverageSpeed() : double * setAverageSpeed(averageSpeed : double) * getCost() : double * setCost(cost : double) * getPurchaseType() : String * setPurchaseType(purchaseType : String) * getPurchased() : boolean * setPurchased(purchased : boolean) * getMaxPassengers() : int * setMaxPassengers(maxPassengers : int) * getNumPurchased() : int * setNumPurchased(numPurchased : int) * getTravelInstructions() : String * setTravelInstructions(travelInstructions : String) * computeTicketCost(numPassengers : int, cost : double) * computeRentalCost(numPassengers : int, maxPassengers : int, cost : double) * toString() : String |

**Parent Classes**

| WaterTransportation |
| --- |
| Inherits from : Transportation   * waterType : String |
| Constructor : WaterTransportation(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, waterType : String)   * getWaterType() : String * setWaterType(waterType : String) * Overridden toString() : String |

| LandTransportation |
| --- |
| Inherits from : Transportation   * terrainType : String * numWheels : int |
| Constructor : LandTransportation(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, terrain : String, numWheels : int)   * getTerrain() : String * setTerrain(terrain : String) * getNumWheels() : int * setNumWheels(numWheels : int) * Overridden toString : String |

| AirTransportation |
| --- |
| Inherits from : Transportation   * altitude : int |
| Constructor : AirTransportation(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, altitude : int)   * getAltitude() : int * setAltitude(altitude : int) * Overridden toString() : String |

**LandTransportation Child Classes**

| Automobile |
| --- |
| Inherits from : LandTransportation   * make : String * model : String * year : int |
| Constructor : Automobile(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, terrain : String, numWheels : int, make : String, model : String)   * getMake() : String * setMake(make : String) * getModel() : String * setModel(model : String) * getYear() : int * setYear(year : int) * toString() : String |

| Bike |
| --- |
| Inherits from : LandTransportation   * brand : String * numGears : int |
| Constructor : Bike(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, terrain : String, numWheels : int, brand : String, numGears : int)   * getBrand() : String * setBrand(brand : String) * getNumGears() : int * setNumGears(numGears : int) * toString() : String |

| Bus |
| --- |
| Inherits from : LandTransportation   * routeNum : int |
| Constructor : Bus(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, terrain : String, numWheels : int,   * getRouteNum() : int * setRouteNum(routeNum : int) * toString() : String |

| Train |
| --- |
| Inherits from : LandTransportation   * fuelType : String |
| Constructor : Train(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, terrain : String, numWheels : int, fuelType : String   * getFuelType() : String * setFuelType(fuelType : String) * toString() : String |

**WaterTransportation Child Classes**

| Boat |
| --- |
| Inherits from : WaterTransportation   * boatName : String * numEngines : int |
| Constructor : Boat(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, waterType : String, numEngines : String, boatName : String)   * getNumEngines() : int * setNumEngine(numEngines : int) * getBoatName() : String * setBoatName(boatName : String) * toString() : String |

| Ship |
| --- |
| Inherits from : WaterTransportation   * shipName : String * cargoType : String |
| Constructor : Boat(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, waterType : String, cargoType : String, shipName : String)   * getCargoType() : String * setCargoType(cargoType : String) * getShipName() : String * setShipName(shipName : String) * toString() : String |

| Submarine |
| --- |
| Inherits from : WaterTransportation   * depth : double |
| Constructor : Boat(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, waterType : String, depth : double)   * getDepth() : double * setDepth(depth : double) * toString() : String |

**AirTransportation Child Classes**

| Plane |
| --- |
| Inherits from : AirTransportation   * airline : String |
| Constructor : Plane(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, altitude : int, airline : String)   * getAirline() : String * setAirline(airline : String) * toString() : String |

| Dirigible |
| --- |
| Inherits from : AirTransportation   * color : String |
| Constructor : Dirigible(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, altitude : int, color : String)   * getColor() : String * setColor(color : String) * toString() : String |

| Helicopter |
| --- |
| Inherits from : AirTransportation   * numBlades : int |
| Constructor : Helicopter(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, altitude : int, numBlades : int)   * getNumBlades() : int * setNumBlades(numBlades : int) * toString() : String |

| HotAirBalloon |
| --- |
| Inherits from : AirTransportation   * basketMaterial |
| Constructor : HotAirBalloon(name : String, averageSpeed : double, cost : double, maxPassengers : int, rental : boolean, altitude : int, basketMaterial : String)   * getBasketMaterial() : String * setBasketMaterial(basketMaterial : String) * toString() : String |