

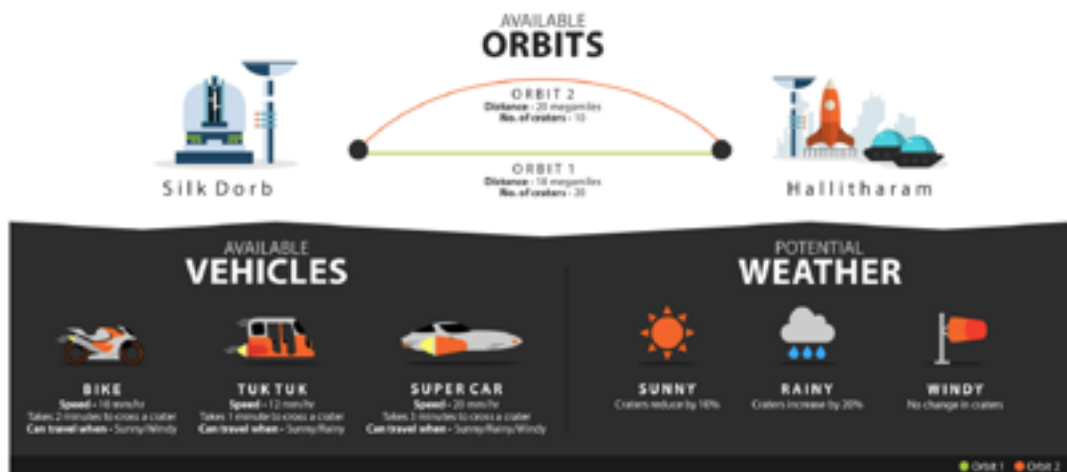
## Graduate Assessment

**Programming Language:** JAVA or C#

**Conditions:**

- Use Object Oriented Programming (OOP)
- Write production ready code.
- Writing tests for your solution is advantages.

King Shan wants to visit the suburb of Hallitharam, and has 2 possible orbits and 3 possible vehicles to chose from. Your coding challenge is to determine which orbit and vehicle King Shan should take to reach Hallitharam the fastest.



**Goal:** To go from Silk Dorb to Hallitharam in the shortest time possible.

**Orbit options:**

- Orbit 1 - 18 mega miles & 20 craters to cross
- Orbit 2 - 20 mega miles & 10 craters to cross

**Vehicle options:**

- Bike - 10 megamiles/hour & takes 2 min to cross 1 crater
- Tuktuk - 12 mm/hour & takes 1 min to cross 1 crater
- Car - 20 mm/hour & takes 3 min to cross 1 crater

**Weather conditions (affects the number of craters in an orbit):**

- **Sunny** - craters reduce by 10%. Car, bike and tuktuk can be used in this weather.
- **Rainy** - craters increase by 20%. Car and tuktuk can be used in this weather.
- **Windy** - no change to number of craters. All vehicles can be used in this weather.

**SAMPLE OUTPUT ONE (IF THE WEATHER IS SUNNY THIS IS THE OUTPUT YOU'LL GET)**

**Input:** Weather is Sunny

**Input:** Orbit1 traffic speed is 12 megamiles/hour

**Input:** Orbit2 traffic speed is 10 megamiles/hour

**Expected Output:** Vehicle TukTuk on Orbit1

**SAMPLE OUTPUT TWO (if the weather is windy this is the output you'll get)**

**Input:** Weather is Windy

**Input:** Orbit1 traffic speed is 14 megamiles/hour

**Input:** Orbit2 traffic speed is 20 megamiles/hour

**Expected Output:** Vehicle Car on Orbit2

**Note:** A vehicle cannot travel faster than the traffic speed for an orbit. So even though a car's max speed is 20 megamiles/hour, it can only go at 10 megamiles/hour if that is the traffic speed for that orbit. Also, if there is a tie in which vehicle to choose, use bike, auto, car in that order.