

Name:

UBIT Name:

Recitation:

1. Draw the UML Diagram describing the relationships between the classes and interfaces below.

```
public interface Vehicle {  
    public boolean isMotorized();  
    public int numWheels();  
    public boolean flies();  
}
```

```
public class TractorTrailer implements Vehicle {  
    @Override public boolean isMotorized() { return true; }  
    @Override public int numWheels() { return 18; }  
    @Override public boolean flies() { return false; }  
}
```

```
public abstract class Bike implements Vehicle {  
    @Override public int numWheels() { return 2; }  
    @Override public boolean flies() { return false; }  
}
```

```
public class Bicycle extends Bike {  
    @Override public boolean isMotorized() { return false; }  
}
```

```
public class Helicopter implements Vehicle {  
    @Override public boolean isMotorized() { return true; }  
    @Override public int numWheels() { return 3; }  
    @Override public boolean flies() { return true; }  
}
```

```
public class Motorcycle extends Bike {  
    @Override public boolean isMotorized() { return true; }  
}
```

2. Write a method that takes an `ArrayList<String>` and a `String` as parameters and returns a boolean. If the given `String` matches any of the `Strings` in the list, return `true`; otherwise, return `false`. Use an enhanced for loop (for-each loop) for this question.