ENSF 480 – QUIZ1 Solution – Sept 22

Reverse engineer the following Java program to a class diagram:

```
class Engin{
  int power;
  Piston piston;
  public Engin(int p, int s) {
       piston = new Piston(s);
  }
}

abstract class Vehicle{
  protected String model;
  public Vehicle (String m){
       model = m;
  }
  abstract void move();
}

class Car extends Vehicle{
  Engin engin;
  public Car(int p, int s, String m){
    super(m);
    engin = new Engin(p, s);
  }

  public void move(){
       System.out.println("Car is moving");
  }
}

class Bike extends Vehicle{
  protected String type;
  public Bike(String m, String t) {
       super(m);
       type = t;
  }

  public void move(){
       System.out.println("Bike is moving");
  }
}
```

```
class Piston{
  int size;
  public Piston(int n){
       size = n;
  }
}

class Motorcycle extends Bike{
  public Motorcycle(String m, String t) {
       super(m, t);
  }

  public void run(){
       System.out.println("Running
                                Motorcycle");
  }
}

class Person{
  ArrayList<Car> cars;
  Bike bike;
  public Person(int n, Bike b){
       cars = new ArrayList<Car>(n);
       bike = b;
  }

  public void add(Car c ){ cars.add(c);}

  public void rent(Motorcycle mb){
       mb.run();
  }
}

class Applicaton{
 public static void main(String []s){
   ArrayList <Vehicle> v;
   v = new ArrayList<Vehicle>(5);
   v.add(new Bike("xyz", "mountain"));
   v.add(new Motorcycle("Harley", "M900"));
   v.add(new Car(350, 250, "Honda"));
  }
}
```

Possible Solution