

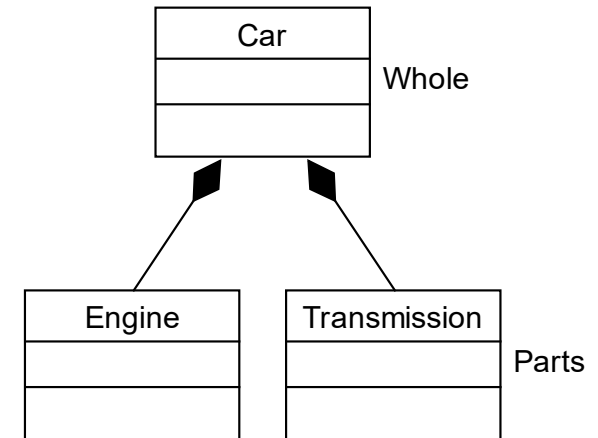


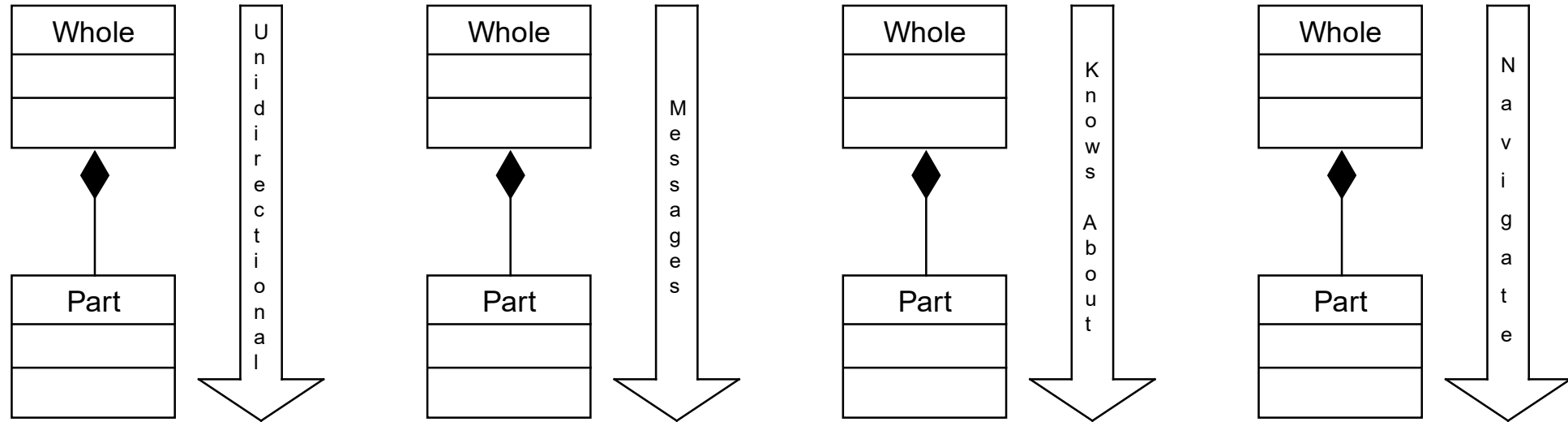
# COMPOSITION

Embedded Objects

# COMPOSITION CHARACTERISTICS

- Parts are bound strongly or tightly to the whole by embedding, nesting, or containment
- Parts are created and destroyed simultaneously with the whole object is created and destroyed
- Once created, the parts can't be replaced
- The parts are not shared with any other object in the program
- Parts are implemented as non-pointer member variables in the whole class

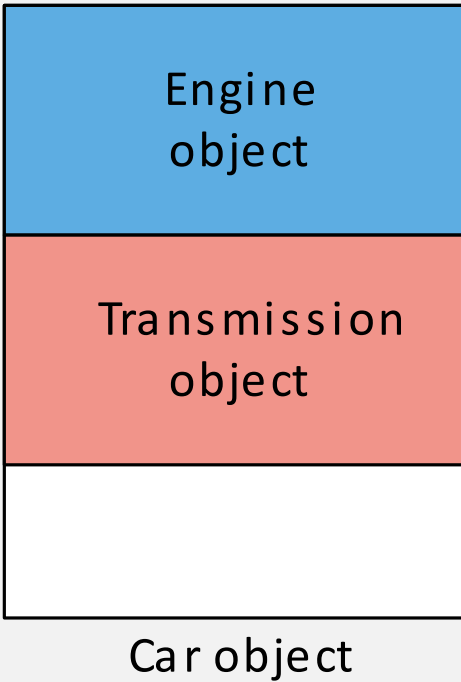




# COMPOSITION DIRECTIONALITY



# IMPLEMENTING COMPOSITION



```
class Engine
{
};

class Transmission
{
};

class Car
{
    private:
        Engine    motor;
        Transmission    trans;
};
```