

MSc Computer Science

Programming in Java

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Coursework 1

Code

```
class Travelcard {
    String type;
    int zone;
}

class OysterCard {
    boolean autotopup;
    boolean registered;
    double amount;
    Travelcard travelcardAttached;
}

boolean yellowReader(OysterCard card, int zone) {
    double fare = getFare(zone);
    double cost = 0.0;
    if(card.travelcardAttached != null) {
        if(card.travelcardAttached.zone >= zone) {
            return true;
        }
    }
    if (card.amount > fare) {
        card.amount -= fare;
        return true;
    }
    return false;
}

double getFare(int zone) {
    double fare=0.0;
    if (zone <= 2) {
        fare = 2.3;
    } else if (zone <= 4) {
        fare = 4.6;
    } else {
        fare = 6.2;
    }
    return fare
}

OysterCard card1 = new OysterCard();
```

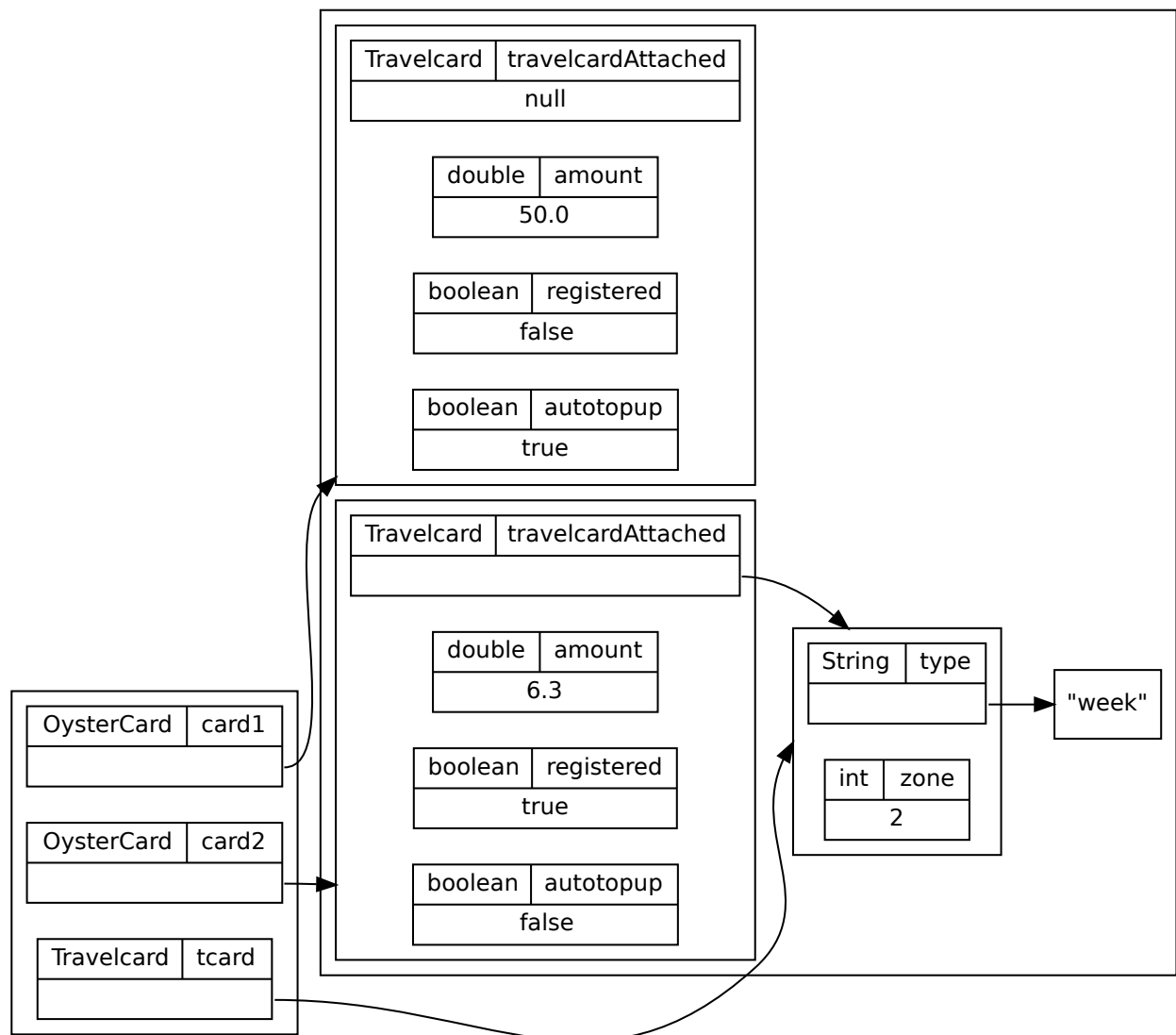
```

card1.autotopup = true;
card1.registered = false;
card1.amount = 50.0;
card1.travelcardAttached = null;
Travelcard tcard = new Travelcard();
tcard.type = "week";
tcard.zone = 2;
OysterCard card2 = new OysterCard();
card2.autotopup = false;
card2.registered = true;
card2.amount = 6.3;
card2.travelcardAttached = tcard;
// Point 1

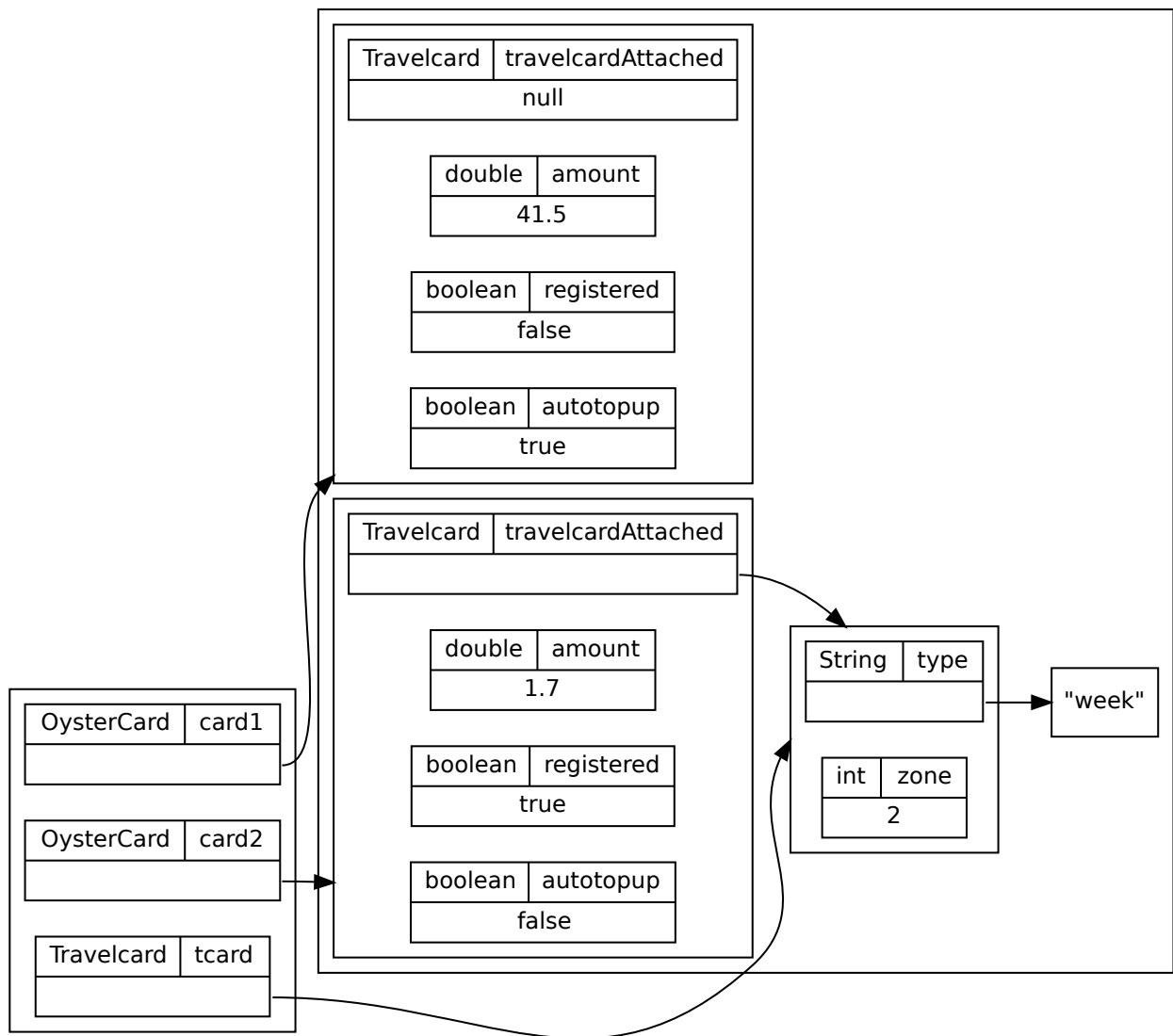
println(yellowReader(card1, 2) ? "pass" : "problem with card");
println(yellowReader(card1, 6) ? "pass" : "problem with card");
println(yellowReader(card2, 4) ? "pass" : "problem with card");
println(yellowReader(card2, 5) ? "pass" : "problem with card");
// Point 2

```

Point 1



Point 2



Notes

- Diagrams drawn with Graphviz dot language [<http://www.graphviz.org>]
- Coursework sources available at <https://github.com/BBK-PiJ-2016-66/exercises/tree/master/cw1>