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PGR103

Objektorientert programmering

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Individuell hjemmeeksamen
Høyskolen Kristiania

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Denne hjemmeeksamenen er gjennomført som en del av utdannelsen ved Høyskolen Kristiania. Høyskolen er ikke ansvarlig for oppgavens metoder, resultater, konklusjoner eller anbefalinger.

Oppgave 1 og 2

Først lagde jeg en skanner som henter ut en og en linje med tekst fra tekstfilen. Så lagde jeg to nye klasser. En for racketene og en for ballene, med konstruktør, getters og setters. Hvert utstyr trenger alle 5 eller 6 linjene for å kunne bli opprettet. Ved å lage returneringsmetoder for hver informasjon om utstyret kan jeg nå enkelt hente ut den informasjonen jeg trenger. Selv brukte jeg for-each løkke. I tillegg lagde jeg en getString metode som printer ut all informasjonen om objektene med rett mellomrom og beskrivelse.

```
Equipment type: Ball ID: 12 Locker 1 Ball needs change? false Type of ball: FootballBall needs air refill? true
Equipment type: Ball ID: 15 Locker 2 Ball needs change? true Type of ball: HandballBall needs air refill? true
Equipment type: Ball ID: 14 Locker 2 Ball needs change? true Type of ball: HandballBall needs air refill? true
Equipment type: Ball ID: 1 Locker 3 Ball needs change? false Type of ball: HandballBall needs air refill? false
Equipment type: Ball ID: 2 Locker 3 Ball needs change? false Type of ball: HandballBall needs air refill? true
Equipment type: Ball ID: 12 Locker 1 Ball needs change? false Type of ball: FootballBall needs air refill? false
Equipment type: Ball ID: 3 Locker 1 Ball needs change? false Type of ball: FootballBall needs air refill? true
Equipment type: Ball ID: 5 Locker 4 Ball needs change? false Type of ball: FootballBall needs air refill? true
Equipment type: Ball ID: 6 Locker 4 Ball needs change? false Type of ball: FootballBall needs air refill? true
Equipment type: Ball ID: 20 Locker 6 Ball needs change? false Type of ball: VolleyballBall needs air refill? false
Equipment type: Ball ID: 21 Locker 6 Ball needs change? false Type of ball: VolleyballBall needs air refill? true
Equipment type: Ball ID: 31 Locker 7 Ball needs change? false Type of ball: BasketballBall needs air refill? false
Equipment type: Ball ID: 32 Locker 7 Ball needs change? false Type of ball: BasketballBall needs air refill? false
Equipment type: Ball ID: 33 Locker 7 Ball needs change? false Type of ball: BasketballBall needs air refill? true
Equipment type: Ball ID: 34 Locker 7 Ball needs change? true Type of ball: BasketballBall needs air refill? false
Equipment type: TableTennisRacket ID: 16 Locker 5 Racket needs change? false Racket needs rubber change? false
Equipment type: TableTennisRacket ID: 17 Locker 5 Racket needs change? true Racket needs rubber change? false
Equipment type: TableTennisRacket ID: 18 Locker 5 Racket needs change? false Racket needs rubber change? true
```

Om jeg er interessert i å printe ut for eksempel bare informasjon om ID er det bare å forandre fra `addBalls.getString()` til `addBalls.getId()`.

Oppgave 3 og 4

Denne oppgaven fikk jeg ikke til helt sånn som den skulle gjøres. Det jeg ikke fikk til var å lage egne metoder i egen klasse til å hente ut den ønska informasjonen. Istedenfor lagde jeg 3 nye Arrays i Mainklassen som samlet på identifikasjonen til utstyret. Jeg fikk printet ut identifikatorene til hvilket utstyr som må byttes ut, hvilke baller trenger påfyll av luft og hvilke racketer trenger nytt belegg.

```
These balls need replacing:
12
15
14
1
2
12
3
5
6
16
17
18
20
21
31
32
33
34

These balls need air:
12
15
14
1
2
12
3
5
6
20
21
31
32
33
34
```

```
These rackets need new padding:
16
17
18
```

Når programmet blir kjørt ser konsollen slik ut:

```
Equipment type: Ball ID: 12 Locker 1 Ball needs change? false Type of ball: FootballBall needs air refill? true
Equipment type: Ball ID: 15 Locker 2 Ball needs change? true Type of ball: HandballBall needs air refill? true
Equipment type: Ball ID: 14 Locker 2 Ball needs change? true Type of ball: HandballBall needs air refill? true
Equipment type: Ball ID: 1 Locker 3 Ball needs change? false Type of ball: HandballBall needs air refill? false
Equipment type: Ball ID: 2 Locker 3 Ball needs change? false Type of ball: HandballBall needs air refill? true
Equipment type: Ball ID: 12 Locker 1 Ball needs change? false Type of ball: FootballBall needs air refill? false
Equipment type: Ball ID: 3 Locker 1 Ball needs change? false Type of ball: FootballBall needs air refill? true
Equipment type: Ball ID: 5 Locker 4 Ball needs change? false Type of ball: FootballBall needs air refill? true
Equipment type: Ball ID: 6 Locker 4 Ball needs change? false Type of ball: FootballBall needs air refill? true
Equipment type: Ball ID: 20 Locker 6 Ball needs change? false Type of ball: VolleyballBall needs air refill? false
Equipment type: Ball ID: 21 Locker 6 Ball needs change? false Type of ball: VolleyballBall needs air refill? true
Equipment type: Ball ID: 31 Locker 7 Ball needs change? false Type of ball: BasketballBall needs air refill? false
Equipment type: Ball ID: 32 Locker 7 Ball needs change? false Type of ball: BasketballBall needs air refill? false
Equipment type: Ball ID: 33 Locker 7 Ball needs change? false Type of ball: BasketballBall needs air refill? true
Equipment type: Ball ID: 34 Locker 7 Ball needs change? true Type of ball: BasketballBall needs air refill? false
Equipment type: TableTennisRacket ID: 16 Locker 5 Racket needs change? false Racket needs rubber change? false
Equipment type: TableTennisRacket ID: 17 Locker 5 Racket needs change? true Racket needs rubber change? false
Equipment type: TableTennisRacket ID: 18 Locker 5 Racket needs change? false Racket needs rubber change? true
```

These balls need replacing:

```
12
15
14
1
2
12
3
5
6
16
17
18
20
21
31
32
33
34
```

These balls need air:

12

15

14

1

2

12

3

5

6

20

21

31

32

33

34

These rackets need new padding:

16

17

18