

1-1:

Rubber tire, lug nuts, metal wheel, car body, engine, mirrors, car doors and windows, windshield
Almost none of them, possibly the windows, wheels, and lug nuts

1-2:

I live at home, but here are some components: Bed, desk, dresser, carpet, door, closet doors, sofa chair

1-3:

Computer chip, Display screen, Keyboard, Speakers, Camera, Microphone, Fan, Casing, Battery, Trackpad

Depending on the company, the computer chip is sometimes assembled by the company, the battery, and casing.

2-1:

To “order from the library”, to bring in pre-assembled parts into scope

2-2:

Primitive types exist in java without the need to import and work with basic operators, while component types must be imported

2-3:

boolean

2-4:

```
if ((0 <= yourAge) && (yourAge <= 3)) {  
    output.println("My, just 2 years old!");  
    output.println("What a cute little baby!");  
}  
else {  
    output.println("Thanks for entering your age.");  
}
```

2-5:

In all cases:

“Oh no! A teenager!

So sorry!

3-1:

Macbook Pro

Airplane

3-2:

In general, people read instruction manuals etc before trying to use something, so they try to figure out as many details as possible before using it. In software, you’re never going to be able

to figure out ALL the details, but the most important part is that people who use software components need to learn what to do to use something, not necessarily be bogged down with all the details.

3-3:

$F = ma$ models force in relation to mass and acceleration

$y = x^2$ models projectiles

3-4:

Because you can manipulate models to test and substitute different values and simulate and manipulate outcomes

3-5:

13, -5

3-6:

All of the constraints are provided in the `AMPMClock` type, and there are no further constraints from the type to the model

4-1:

`clock.display()`, `clock.daylightSavings()`, `clock.plusOneHour()`, `clock.minusOneHour()`,
`clock.reset()`

4-2:

The formal parameters and description of `AMPMClock`

4-3:

Incoming values, because the outgoing values of parameters are not copied back to the arguments after the method executes

4-4:

`newHours = 3`

`myClock = (3,25,48,true)`

4-5:

`void setSeconds(int newSeconds)`

Sets `this.seconds` to `newSeconds`

Parameters: `newSeconds` – the new seconds for this

Updates: `this.seconds`

Requires: $0 \leq \text{newSeconds} \leq 59$

Ensures: `this.seconds = newSeconds`

4-6:

`newMinutes` will equal 31 after both method calls

4-7:

`myClock = (11,25,48,true)`

4-8:

boolean, because `isAm` returns `this.am`, which is a boolean

4-9:

the value that `isAm` returns is either true or false - whether clock's am value is true or false

4-10:

The value of clock

4-11:

`int minutes()`

Reports `this.minutes`.

Returns: `this.mimutes`

Ensures: `minutes = this.minutes`

4-12:

`int seconds()`

Reports `this.seconds`

Returns: `this.seconds`

Ensures: `seconds = this.seconds`

4-13:

`myClock = (8,2,43,true)`

`yourClock = (11,18,6,false)`

`transferMinutes = 2`

`myClock = (8,2,43,true)`

`yourClock = (11,2,6,false)`

`transferMinutes = 2`