**1.**

(a) What is the difference between a class and an object?

A class is the structure for an object that defines its attributes and methods. While an object is a specific instance of a class.

(b) Why do we need accessors?

(i) What relationship do accessors have with class fields?

Because fields are usually private, so you can’t access them from the outside. So accessors are used to in access and retrieve the values.

(ii) What class fields would you need for Student class?

firstName, lastName, classGPA, dOB

(c) Why do we need mutators?

(i) How are mutators related to class fields?

Because fields are usually private, so you can’t access them from the outside. So, accessors are used to in modify the values.

(ii) Why do you not need a mutator that changes all class fields at once?

We don’t always have to change everything.

(d) Why might we use submodules for validation?

To improve reusability and readability of code

(e) Why should model classes not have INPUTs and OUTPUTs?

To improve reusability

3)

**Table

Description automatically generated**

Class Date

CLASS FIELDS:

day (Integer)

month (Integer)

year (Integer)

CLASS METHODS:

isLeapYear() : Boolean

getSuffix(): String

setDay(): none

setMonth(): none

setYear(): none

getDay(): Integer

getMonth(): Integer

getYear(): Integer

METHOD: isLeapYear

IMPORT: none

EXPORT: BOOLEAN

ALGORITHM:

year <- getYear()

IF (year MOD 4 EQUAL TO 0)

RETURN TRUE

ELSE

RETURN FALSE

ENDIF

METHOD: