

Software Development Methods

Lab 6: Class Diagrams

The Software Development Methods Team

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1 The nuts and bolts of Class Diagrams

1.1 Which of the following object diagrams are consistent with the class diagram?

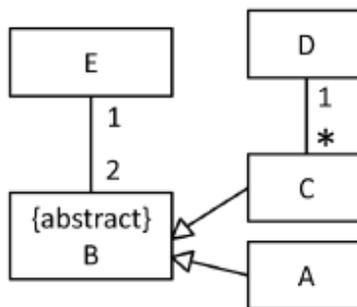


Figure 1: UML 2 class diagram



Figure 2: a)

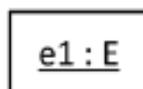


Figure 3: b)

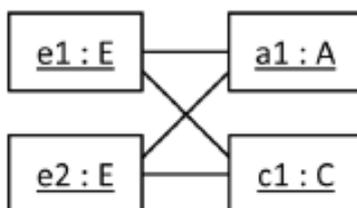


Figure 4: c)

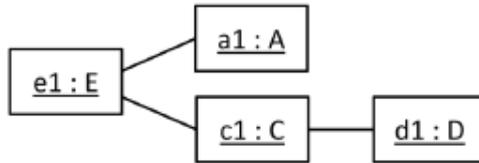


Figure 5: d)

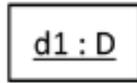


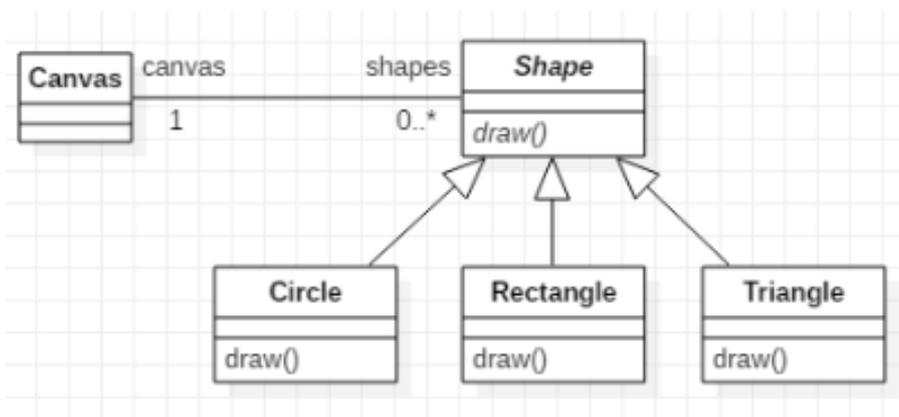
Figure 6: e)

1.2 Model the following situations as UML2 class diagrams:

1. A person may have, or not, a spouse.
2. A student may be enrolled in several courses. Each course may have several enrolled students. It is important to know which students are enrolled in each course, in each year. Each course is taught by an instructor. An instructor may teach more than one course.
3. A musician may play in several bands, within a given time period (a start and an ending date, which, of course, may be different for each musician's participation in each band). Each band has at least two musicians.
4. A person may hold several bank accounts (or even none). Bank accounts may be of one of three kinds: a checking account, a savings account, or a credit account.
5. There are several kinds of animals. Dogs, cats, lions, tigers, elephants, wolves, are some of the examples. An animal is never *just* an animal. We always know its particular kind. Also, while some animals are pets, others are wild animals.
6. An airline has several customers who are frequent flyers. Each of these frequent flyers has a unique frequent flyer number.

2 Classes and corresponding code

2.1 Consider the following diagram:



Please specify the skeleton of the Java classes that would implement the model in this class diagram.