1. Identify the attributes of the student class. What are the details that can be exposed and what details can be hidden?

* Attributes for student class can be student Id, student name, what department(s) of engineering do they belong, if the student is either graduate or post-graduate, current semester, courses the student is taking, login info, residential status.
* All the attributes except the login info can be exposed as login info is not meant to be known only by the student themselves.

1. Consider the calculation of grade for the Student. There are several student types. Let us assume that we need to write a method for the calculation. How many methods would be written? Will they have the same name and signature? Will the functionality/code in these functions remain same?

* We can overload a calculation method to work with different student types. So, this means we will have a single overloaded method with several iterations of methods with same name. But the functionality of each iteration of methods will be slightly different. If we chose to use an overloaded method, then the name will be same but the signature might vary.

1. The fees have to be paid by the host-elite and by the day scholars. The host-elites need to pay hostel fees along with semester fees. The day scholars need to pay only semester fees. How many function/s would you code in the Student class and why?

* We can either write two methods for each residential type and overload them to use it as a single method or we can simply write a single method with conditional functionality.

1. For the options a, b and c identify the OOP features that would be implemented.

* a: encapsulation, b: polymorphism, c: abstraction.