

Exercise 4: Python

1. Create a Python class called ShoppingCart that has the following attributes:

- items (a list)
- totalPrice (a float)

The class should have the following methods:

- addItem(item): This method should add the specified item to the shopping cart.
- removeItem(item): This method should remove the specified item from the shopping cart.
- getTotalPrice(): This method should calculate and return the total price of all items in the shopping cart.

In the main file, create one ShoppingCart object, add some items to the object, remove some items from the object, and print out the total price.

2. Create a class called Employee with the following attributes:

- name (a string)
- age (an integer)
- salary (a float)

Implement the attributes using encapsulation so that they can only be accessed or modified using methods defined within the class.

3. Create a Python class called Student that has the following attributes:

- name (a string)
- studentID (a string)
- courseList (a list)

The class should have the following methods:

- setName(name): This method should set the name of the student.
- getName(): This method should return the name of the student.
- setStudentID(studentID): This method should set the student ID of the student.

- `getStudentID()`: This method should return the student ID of the student.
- `addCourse(course)`: This method should add the specified course to the course list.
- `removeCourse(course)`: This method should remove the specified course from the course list.
- `displayCourses()`: This method should print out all the courses in the course list.

In the main file, create one Student object, set its attributes, add some courses to the object, remove some courses from the object, and print out the courses in the object.