

1. (11.1) Create a *Book* class.

A *Book* has

- title
- author
- page_count

This class “looks” like

Book
title
author
page_count

Create a constructor method that initializes all instance variables.

You should write getters and setters for each of the instance variables.

Instantiate an instance of the class. You may pass any initial values of your choosing.

2. (11.2) Create a *Vehicle* class.

A *Vehicle* has

- make
- model
- year

This class “looks” like

Vehicle
make
model
year
print_vehicle_type

A *Vehicle* can do

- *print_vehicle_type*

Create a constructor method that initializes all instance variables.

You should write getters and setters for each of the instance variables.

Instantiate an instance of the class. You may pass any initial values of your choosing.

Write a method called *print_vehicle_type*, which prints in the form “[year] [make] [model]”
example. “2021 Toyota Camry”.

3. (11.3) Create a *Student* class.

A *Student* has

- A name
- A major
- A GPA

This class “looks” like

Student
name
major
GPA
introduce
study_for_exam

A *Student* can do

- introduce themselves
- study for exam

You should write getters and setters for each of the instance variables.

An introduction should be of the form: Hi, I’m *name*. I’m studying *major*.

eg. Hi. I’m Maria. I’m studying Computer Science.

Studying for an exam should increase the GPA by 0.2 points. (up to a maximum of 4.0)

It should be of the form:

I'm hitting the books! My GPA increased from *old GPA* to *new GPA*.

eg. I'm hitting the books! My GPA increased from 3.5 to 3.7.

1. (11.1) Create an *Product* class.

A *product* has

- A name
- A price
- A quantity

This class “looks” like

Product
name
price
quantity

Create a constructor method that initializes all instance variables.

You should write getters and setters for each of the instance variables.

Instantiate an instance of the class. You may pass any initial values of your choosing.

2. (11.2) Create a *Point* class.

A *Point* has

- x_coordinate
- y_coordinate

This class “looks” like

Course
x_coordinate
y_coordinate
print_info

A *Point* can do

- *print_info*

Create a constructor method that initializes all instance variables.

You should write getters and setters for each of the instance variables.

Instantiate an instance of the class. You may pass any initial values of your choosing.

Write a method called *print_info*, which prints in the form

“(x,y)=([x.coordinate], [y.coordinate])”

example. “(x,y)=(4, 5)”.

3. (11.3) Create an *Employee* class.

An *Employee* has

- A name
- A title
- A salary

This class “looks” like

Employee
name
title
salary
greeting
request_raise

An *Employee* can do

- a greeting
- request raise

You should write getters and setters for each of the instance variables.

A greeting should be of the form: Hello. My name is *name*. I’m the *title*.

eg. Hello. My name is Eugene. I’m the CEO.

A raise request should request a 6% raise.

It should be of the form: I'm currently making *salary*. I'd like new salary of *new amount*.

eg. I'm currently making \$100. I'd like new salary of \$106.

1. (11.1) Create a *Movie* class.

A *Movie* has

- title
- director
- runtime_minutes

This class “looks” like

Movie
title
director
runtime_minutes

Create a constructor method that initializes all instance variables.

You should write getters and setters for each of the instance variables.

Instantiate an instance of the class. You may pass any initial values of your choosing.

2. (11.2) Create a *Course* class.

A *Course* has

- course_code
- course_name
- instructor

This class “looks” like

Course
course_code
course_name
instructor
print_info

An *Course* can do

- *print_info*

Create a constructor method that initializes all instance variables.

You should write getters and setters for each of the instance variables.

Instantiate an instance of the class. You may pass any initial values of your choosing.

Write a method called *print_info*, which prints in the form

“[course_code]: [course_name] taught by [instructor]”

example. “CIS101: Introduction to programming taught by Matt”.

3. (11.3) Create a *Circle* class.

A *Circle* has

- radius

This class “looks” like

Circle
radius
calculate_circumference

A *Circle* can do

- calculate_circumference

Create a constructor method that initializes all instance variables.

You should write getters and setters for each of the instance variables.

Instantiate an instance of the class. You may pass any initial values of your choosing.

The calculate_circumference() method should return the circumference calculated as: $2 \cdot \pi \cdot \text{radius}$.

1. (11.1) Create an *Product* class.

A *product* has

- A name
- A price
- A quantity

This class “looks” like

Product
name
price
quantity

Create a constructor method that initializes all instance variables.

You should write getters and setters for each of the instance variables.

Instantiate an instance of the class. You may pass any initial values of your choosing.

2. (11.2) Create a *Vehicle* class.

A *Vehicle* has

- make
- model
- year

This class “looks” like

Vehicle
make
model
year
print_vehicle_type

A *Vehicle* can do

- *print_vehicle_type*

Create a constructor method that initializes all instance variables.

You should write getters and setters for each of the instance variables.

Instantiate an instance of the class. You may pass any initial values of your choosing.

Write a method called *print_vehicle_type*, which prints in the form “[year] [make] [model]” example. “2021 Toyota Camry”.

3. (11.3) Create a *TemperatureInCelsius* class.

A *TemperatureInCelsius* has

- temp_value

This class “looks” like

TemperatureInCelsius
temp_value
to_fahrenheit

A *TemperatureInCelsius* can do

- to_fahrenheit

Clarification: temp_value is the temperature in Celsius.

Create a constructor method that initializes all instance variables.

You should write getters and setters for each of the instance variables.

Instantiate an instance of the class. You may pass any initial values of your choosing.

The to_fahrenheit() method should return the temperature in Fahrenheit calculated as:
$$\text{Fahrenheit} = (\text{Celsius} * 9/5) + 32.$$