CSY2030 Classes, Objects and Polymorphism

1) Create a class named *Pet*, which should have the following fields:

Name - The name field holds the name of a pet.
Animal - The animal field holds the type of animal that a pet is. Example values are “Dog”, “Cat”, and “Bird”.
Age - The age field holds the pet’s age.

a. Write getter and setter methods for each field.
b. Add a method that prints [name] is a [age] year old [type]
c. Add three pets to the system and print their details

2) Write a class for a Car that has the following fields:

- *make* (string)
- *model* (string)
- *registration* (string)
- *speed* (integer)

It also has the following methods:

- *accelerate()* which increments the speed by 5
- *brake()* which decrements the speed by 10
- *getSpeed()* which returns the current speed of the car

In your *main()* method, create an instance of the Car class and using *while* loops accelerate the car to 60mph then apply the brakes back down to zero. Display the speed of the car at each iteration.

3) Create a Rectangle class with the following attributes:

- *Width* (integer)
- *Height* (integer)

It also has a method called *draw()* which should draw the rectangle on the screen (as below) based on user inputs (it should only accept integers)

Sample output:

```
Enter the width:
5
Enter the height:
8
Your rectangle:
+---+
|###|
|###|
|###|
|###|
|###|
|###|
+---+
```

Add a *setFill(char chr)* method which takes a character as its argument and uses it as the centre of the rectangle. Sample output could be:

```
Enter the width:
5
Enter the height:
8
Enter the fill character
@
Your rectangle:
+---+
|@@@|
|@@@|
|@@@|
|@@@|
|@@@|
|@@@|
+---+
```

Make the *setFill* method polymorphic so it can also accept an integer parameter