

## Exam Question

Write a Python program that implements the class `DroneSet` which initializes the class with the following private attributes

`availability` --> number of drones available to check out

`capacity` --> total number of drones. Initial value=200

`checkedOutQty` --> a list which contains list of checkedout ids. Initial value  
=`[0,0,0,0]`

`checkedOutID` --> an attribute which creates ID for each checkin. Initial value  
=`-1`

and the following methods

`get_availability()` --> accessor function to return the number of available  
drones

`get_capacity()` --> accessor function to return the total capacity of drones

`check_out(qty)` --> method that checks out number of drones specified by qty.

This method should update the number of drones available after `check_out`.

This method should store the qty checked out in the attribute `checkedOutQty`

list and return a checkout id, which is the index of the `checkedOutQty` list

corresponding to the qty). For example, for the first qty checked out,

`checkOutID=0`. Your program does not need to handle error case for this  
method.

`check_in(id, qty)` --> method that checks in number of drones specified by qty.

This method should first check if the id provided by user matches the id and

the associated quantity in the list and then update the number of drones

available after `check_in`, if there is a match. The method should return an error

(-1) if id and qty do not match. The method does not need to handle special

cases such as two checkins for the same quantity mapping to two ids.

The output of my driver code, when run with your `DroneSet` class, should be as follows

```
C:\Users\asamant\AppData\Local\Programs\Python\Python39\python.exe
```

```
C:/Users/asamant/Documents/UTAustin/APAD/Assignment2/driver_exam.py
```

```
Number of HW sets available: 200
```

```
Checkout id for the first checkout of 30 drones is: 0
```

```
HW availability after first checkout is: 170
```

```
Checkout id for the second checkout of 50 drones is: 1
```

```
HW availability after second checkout is: 120
```

ID and Checkin qty match. Number of HW sets available: 170

Process finished with exit code 0

And my driver code is given in file driver\_exam.py