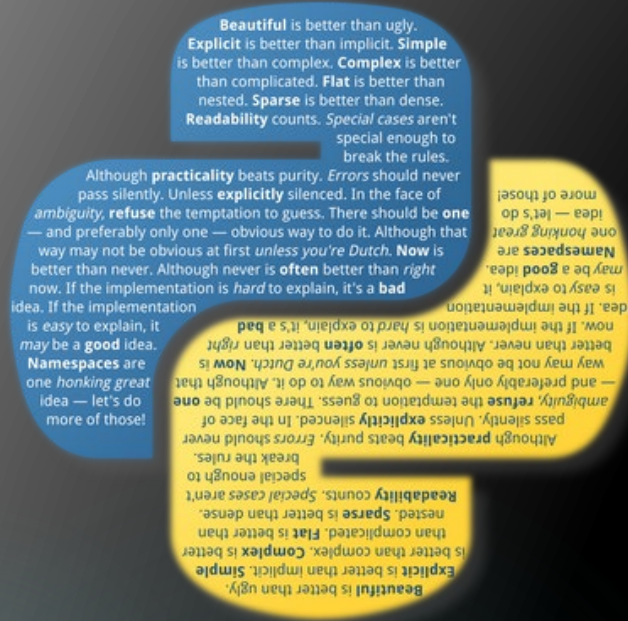


# IS612 Introduction To Coding Spring 2022

OOP



## CEX 3: OOP 2

### SIMPLE CLASSES AND OBJECTS

# Class Turboprop

2

## TurboProp

- **String** variant
- **String** modelNumber
- **String** aircraftTailNumber
- **int** crew
- **int** passengerCapacity
- **List (Passenger)** passengers
- **float** length
- **float** wingSpan
- **float** height
- **int** currentSpeed
- **int** currentAltitude
- **boolean** isLanded
- **boolean** isAirborne
- + static **int** aircraftCount = 0
- + displayACInfo()...**void**
- + displayACStatus...**void**
- + displayPassengerInfo()...**void**
- + TakeOff()...**void**
- + Land()...**void**

Method	Description
displayACInfo	Displays the value of the <b>variant</b> , <b>modelNumber</b> , and <b>aircraftTailNumber</b> attributes (see output slide for format)
displayACStatus	Displays the value of the <b>currentSpeed</b> , <b>currentAltitude</b> , and the <b>isAirborne</b> attributes (see output slide for format)
displayPassengerInfo	Displays the passenger <b>IDNumber</b> and <b>Seat Number</b> of the Passenger object (see slide 4 for Passenger Class) and (see output slide for format)
TakeOff	if the <b>isAirborne</b> attribute is True displays 'Aircraft is already airborne'...otherwise sets the <b>currentSpeed</b> to 75, the <b>currentAltitude</b> to 200, the <b>isLanded</b> to False, the <b>isAirborne</b> to True and displays '[aircraftTailNumber] has taken off'
Land	if the <b>isAirborne</b> attribute is False displays 'Aircraft is already landed'...otherwise sets the <b>currentSpeed</b> to 0, the <b>currentAltitude</b> to 0, the <b>isLanded</b> to True, the <b>isAirborne</b> to False and displays '[aircraftTailNumber] is landed'

# Class Passenger

3

Passenger
- <b>String</b> IDNumber - <b>String</b> SeatNumber + static <b>int</b> passengerCount + displayPassengerInfo()... <b>void</b>

Method	Parameters	Description
displayPassengerInfo	None	Displays the value of the <b>IDNumber</b> and <b>SeatNumber</b> attributes ( <i>see output slide for format</i> )

Constructor increments passenger**Count** after each object is constructed

Implement all accessors and mutators

# Tasks

4

Task	Requirements
1	Create the Turboprop Class
2	Create the Passenger Class
3	Create the following Passenger objects <code>IDNumber = 'P-01' SeatNumber = '1A'</code> <code>IDNumber = 'P-02' SeatNumber = '1B'</code> <code>IDNumber = 'P-03' SeatNumber = '2A'</code> <code>IDNumber = 'P-04' SeatNumber = '2B'</code>
4	Create the TurboProp object with the following parameters: <code>variant = 'BeechCraft 200' modelNumber = 'BC-001'</code> <code>aircraftTailNumber = 'US-BC-01' crew = 2</code> <code>passengerCapacity = 10 passengers = passengers created in Task 3</code> <code>length = 43 ft 6 in wingSpan = 57 ft 6 in</code> <code>height = 14 ft 4 in currentSpeed = 130 mph</code> <code>currentAltitude = 5000 ft isLanded = False isAirborne = True</code>
5	Call the <code>displayACStatus()</code> method on the TurboProp object created in Task 4
6	Call the <code>displayPassengerInfo()</code> method on the TurboProp object created in Task 4
7	Call the <code>Land()</code> method on the TurboProp object created in Task 4
8	Call the <code>displayACStatus()</code> method on the TurboProp object created in Task 4
9	Call the <code>TakeOff()</code> method on the TurboProp object created in Task 4
10	Call the <code>displayACStatus()</code> method on the TurboProp object created in Task 4

# Tasks

5

```
===== RESTART: C:/Users/msgth/Desktop/PACEPython/Exa
```

```
_____Aircraft Status For: US-BC-01_____
```

```
Speed: 130
```

```
Altitude: 5000
```

```
In Flight True
```

```
Passenger ID: P-001
```

Task 5

```
Passenger Seat: 1A
```

```
Passenger ID: P-002
```

```
Passenger Seat: 1B
```

```
Passenger ID: P-003
```

Task 6

```
Passenger Seat: 2A
```

```
Passenger ID: P-004
```

```
Passenger Seat: 2B
```

```
US-BC-01 is landed
```

Task 7

```
_____Aircraft Status For: US-BC-01_____
```

```
Speed: 0
```

```
Altitude: 0
```

```
In Flight False
```

```
US-BC-01 has taken off
```

Task 9

```
_____Aircraft Status For: US-BC-01_____
```

```
Speed: 75
```

```
Altitude: 200
```

```
In Flight True
```

```
>>>
```

Task 10