Congratulations! You passed!
TO PASS 80% or higher

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Custom Models

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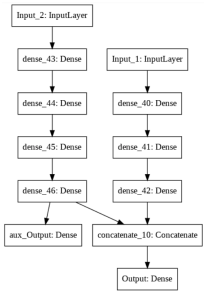
1. Following is an example of a deep and wide network structure.

1 / 1 point



- True
- False (selected)

Correct
Correct! This model structure does not have an input path that go through a shallow, or a wide layer.

2. Consider the following code and check all that are true:

1 / 1 point

```
class MyModel(Model):
  def __init__(self, units=30, activation='relu', **kwargs):
    super().__init__(**kwargs)
    self.hidden1 = Dense(units, activation=activation)
    self.hidden2 = Dense(units, activation=activation)
    self.main_output = Dense(1)
    self.aux_output = Dense(1)

  def call(self, inputs):
    input_A, input_B = inputs
    hidden1 = self.hidden1(input_B)
    hidden2 = self.hidden2(hidden1)
    concat = concatenate([input_A, hidden2])
    main_output = self.main_output(concat)
    aux_output = self.aux_output(hidden2)
    return main_output, aux_output
```

- [ ] The code is incomplete in the sense that you can only initialize and construct your model, you cannot perform training or inference.
- [x] The *init* function initializes the *MyModel* Class objects, as well as the attributes that are inherited from the *Model* Class.

Correct
Correct!

- [ ] The *concat* should be defined within the *init* function instead of the *call* function as it is also a hidden layer.
- [x] The output layers cannot give more than 1 result each.

Correct
Correct! They each hold only 1 unit.

3. You have learned that Sequential and Functional APIs have their limitations.

1 / 1 point

How can you build dynamic networks where the architecture changes on the fly, or networks where recursion is used? Check all that are true:

- [x] Using model subclassing

Correct
Correct! With model subclassing it is relatively easier to build these complex networks.

- [x] Using Sequential API

Correct
Correct! With Sequential APIs it is possible to build these networks.

- [x] Using Functional API

Correct
Correct! With Functional APIs it is possible to build these networks, but it would require a lot of coding.

4. Which one of the following is a false statement regarding model subclassing?

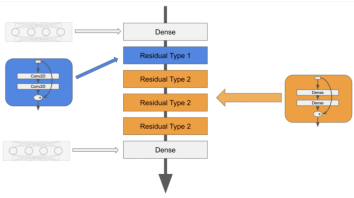
1 / 1 point

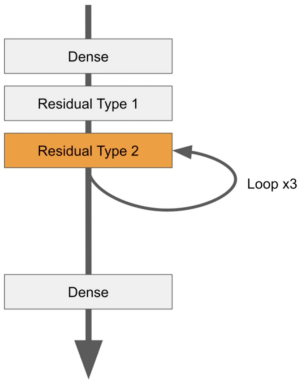
- You cannot introduce a branch structure in the architecture when doing model subclassing. (selected)
- You can make use of Functional and Sequential APIs when writing code for model subclassing.
- You can have modular architectures
- Instead of tweaking the entire architecture, you can have different modules and make changes in them as required, as opposed to entirely rewriting the structure.

Correct
Correct! You can have branches within your network

5. Consider the following two images:

1 / 1 point





Check all that are true:

- [ ] You loop *Residual Type 2* (*Dense* layers) because you cannot make a loop of *Conv2D* layers (*Residual Type 1*)
- [x] When you make a loop of *Residual Type 2* blocks, each block could have the same weights.

Correct
Correct!

- [x] You make a loop of *Residual Type 2* blocks because you want to reduce the depth of the network (making it less complex of an architecture)

Correct
Correct!

- [x] Each Residual block has two hidden layers and one add layer in it.

Correct
Correct!