

# Unit 9 - Week 8

## Course outline

How does an NPTEL online course work?

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Lecture 33: TensorFlow Customization

Lecture 34: Customizing tf.keras - Part 1

Lecture 35: Customizing tf.keras - Part 2

Lecture 36: TensorFlow Distributed Training

Quiz : Assignment 8

Week 8 Feedback

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## Assignment 8

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

**Due on 2020-03-25, 23:59 IST.**

1) What will be the values of  $(z+w)$  if we execute the following code:

1 point

```
x = tf.constant(0.0)
with tf.GradientTape(persistent=True) as t:
    t.watch(x)
    y = tf.cos(x)
    z = tf.sin(x)+tf.tanh(x)
    w = z - y + x
dw_dx = t.gradient(w, x)
dz_dx = t.gradient(z, x)
dy_dx = t.gradient(y, x)
```

- 1  
 0  
 1  
 2  
 3

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
-1

2) What will be the values of  $dz\_dx$  if we execute the previous code:

1 point

- 1  
 0  
 1  
 2  
 3

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
2

3) What will be the values of  $dw\_dx$  if we execute the previous code:

1 point

- 1  
 0  
 1  
 2  
 3

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
3

4) Please visit [this](#) notebook for answering the following questions. What will be the output of the model before training if we give  $x = 3.0$  as input?

1 point

- 6  
 15  
 30  
 33

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
33

5) What is the range of loss after the 10th epoch during the training process?

1 point

- 0.0 - 1.1  
 1.1 - 1.5  
 1.5 - 2.5  
 2.5 or more

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
1.1 - 1.5

6) What is the range of loss after the 20th epoch?

1 point

- 0.0 - 1.1  
 1.1 - 1.5  
 1.5 - 2.5  
 2.5 or more

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
1.1 - 1.5

7) What is the range of loss after the 10th epoch if the learning rate was 0.01?

1 point

- 0 - 5  
 5 - 15  
 15 - 25  
 25 - 50  
 50 - 100

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
15 - 25

8) What is the range of loss after the 20th epoch if the learning rate was 0.01?

1 point

- 0 - 5  
 5 - 15  
 15 - 25  
 25 - 50  
 50 - 100

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
5 - 15

9) Suppose you have 4 GPUs (having 2GB memory each) to train your deep learning model. You have 1000 data points in your dataset that takes around 50 GB of storage. What will be the best choice for batch size for one device (using Mirrored Strategy in TF)?

1 point

- 16  
 32  
 64  
 128  
 256  
 512  
 1024

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
32

10) Select the steps that can be performed in a distributed manner:

1 point

- Weight initialization  
 Loss computation  
 Gradients computation  
 Weights update  
 Model Prediction

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Loss computation  
Gradients computation  
Model Prediction

11) Following strategies can be used in case of multiple machines:

1 point

- One Device Strategy  
 Mirrored Strategy  
 Multi-Worker Mirrored Strategy  
 Parameter Servers Strategy

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Multi-Worker Mirrored Strategy  
Parameter Servers Strategy