Session 4 - Quiz

- Due Nov 17 at 11:30pm
- Points 190
- Questions 15
- Available Nov 9 at 12:30pm Nov 17 at 11:30pm
- Time Limit 31 Minutes

Instructions

You have 30 minutes to solve this quiz!

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	30 minutes	147.86 out of 190

Score for this quiz: 147.86 out of 190

Submitted Nov 16 at 7:29am

This attempt took 30 minutes.

Question 1

10 / 10 pts



PyTorch does not provide debugging tools because?

- Debugging is difficult.
- PyTorch does not create as many bugs as Tensorflow

Correct!

- It is literally Python, so we can se any python based debugging tools
- PyTorch is not focused on debugging, just writing models

Question 2

22.86 / 40 pts

Match the following

Correct!

PyTorch



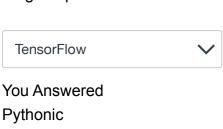
Correct!

Tensorflow (without Keras)



Correct!

Large dependencies



PyTorch

torch.optim

Correct!

Better GPU/CPU control





PyTorch

You Answered

Numpy 3D array should be called



Tensor

Other Incorrect Match Options:

Matrix

- torchvision
- torch.optim

:

Question 3

10 / 10 pts

Which of these are **not** a tensor?

a 2d matrix

Correct!

- All are tensors
- a scalar component
- a 1d vector

Question 4

3.33 / 10 pts

What is **not true** about torch. Tensor?

Correct!

It uses a default float64 tensor

Correct Answer

- It produces a new tensor with same dtype
- Other tensors can inherit from it

Correct Answer

It shares the underlying memory with numpy

Question 5

10 / 10 pts

What is **not true** about torch.tensor?

Correct!

It uses a default float64 tensor

Correct!

- It shares the underlying memory with numpy
- It produces a new tensor with same dtype
- it always copies the data

Question 6

10 / 10 pts



What all is **not true** about torch.as_tensor?

It shares the underlying memory with numpy

Correct!

- it always copies the data
- It produces a new tensor with same dtype

Correct!

it cannot accept numpy data

Correct!

It uses a default float64 tensor

Question 7

10 / 10 pts

What all is **not true** about torch.from_numpy?

- It shares the underlying memory with numpy
- It produces a new tensor with same dtype

Correct!

it always copies the data

Correct!

It uses a default float64 tensor

Question 8

5 / 5 pts

Consider this Python code and tell whether the id(x) before and after the operation would be the same or different.

- may be same
- may be different
- same

Correct!

different

Question 9

23.33 / 35 pts

Consider this Pytorch code:

x =torch.randn(5, 5) #requires_grad = False by
defaults

y =torch.randn(5, 5) #requires_grad = False by
defaults

z =torch.randn((5, 5), requires_grad=True)

a = x + y

b = a + z

Correct Answer

gradient for b is constant

Correct!

a.requires_grad is False

Correct Answer

only if all inputs don't require gradient, the output also won't require it

Correct!

If there's a single input to an operation that requires gradient, its output will also require gradient.

Correct

Backward computation is never performed in the subgraphs, where all Tensors didn't require gradients.

Correct!

b.requires grad is True

Question 10

6.67 / 10 pts

Which among the below can be made from a tensor of shape [9, 40, 6]?

[3, 12, 12, 4]

Correct!

[1, 2160]

Correct!

[8, 270]

Correct Answer

[16, [27, 5]]

Question 11

5 / 5 pts

We want the value of the largest element in a 1D tensor (t), what would you use?

• t.argmax

Correct!

t.max

Question 12

5 / 5 pts

We want the position of the largest element in a 1D tensor, what would you use?

```
Correct!
```

t.argmax

t.max

Question 13

10 / 10 pts

```
t = torch.tensor([
     [1, 0, 0, 2],
     [0, 3, 3, 0],
     [4, 0, 0, 5]
```

], dtype=torch.float32)

t.max(dim=1) #what does this line print?

tensor([4, 3, 3, 5])

Correct!

tensor([2, 3, 5])

Question 14

6.67 / 10 pts

Select all that is true about this code:

sample = next(iter(something))

(fix) if we execute the code twice, the first output will be different from the second output

Correct Answer

☐ If the "something" object has not implemented __getitem__(), exception will be raised

Correct!

The iter() function creates an object which can be iterated one element at a time.

Correct!



If "something" was written in such a way that it returns more than 1 objects/images/sentences/etc, sample is a "batch"

Question 15

10 / 10 pts

What does this piece of code do?

optimizer.zero_grad()

Correct!



You have to zero the gradients because PyTorch gives you the possibility to accumulate gradients, eg., when de multiple passes of backprop on the same graph



Because it's likely that you want to perform mini-batch gradient descent. Without zeroing you'd end up with (full) batch gradient descent, more or less, since the gradient would keep accumulating over time.

Quiz Score: 147.86 out of 190