Question 1

Which option is the correct activation (unction for the output layer in a CNN model trained to classify an image belonging to one of the n classes (CI. C2, C3, , Cn)?
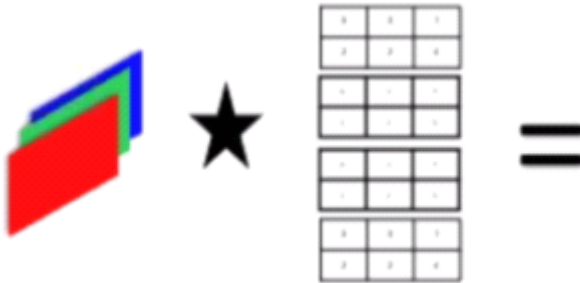
Options:

A- Sigmoid

B- ReLU

C- TanH

D- Softmax

Answer:

A

Question 2

Refer to the exhibit.

How many output feature maps would be created by a convolutional layer with four filters applied to a three channel input?

Enter your numeric answer in the space above.

Answer:

Question 3

Question Type: **Hotspot**

("Not*: This is an interactive item Follow the instructions to answer the question Scroll bars may appear if the windows are too small Each window can be re-sized by dragging on the 5 circles located between windows)

Complete the statement on the right with the options on the left.

Cross-correlation Convolution Linear operation Nonlinear operation Scale-invariant operation	**Answer Area**
Answer:	The combination function used by a convolution filter is a [　　　　　　]
	which is considered to be a [　　　　　　]

Question 4

Question Type: DragDrop

("Note: This is an interactive item Follow the instructions to answer the question Scroll bars may appear it the windows are too smart Each window can be resized by

dragging on the 5 circles located between windows)

You are building a CNN for an image classification task

Drag the layers on the left to the slots on the right in the appropriate order (from top to bottom) for this task

You have the number of layers listed below

* Input Layer (1)

* Output Layer (1)

* Convolutional Layer (1)

* Fully Connected Layer(2>

* Pooling Layer(1)

Input Layer

Output Layer

Answer:

Question 5

Question Type: **MultipleChoice**

Convolutional Layer

Fully Connected Layer

Given these two addLayer action calls:

```
addLayer model='mymodel' name="fc1"

        layer={type='fullconnect' n=20} srcLayers={"data"};

addLayer model='mymodel' name="fc2"

        layer={type='fullconnect' n=50} srcLayers={"fc1"};
```

How many trainable parameters for layer fc2?

Options:

A- 70

B- 1050

C- 1020

D- 1000

Answer:

D

Question 6

Question Type: **MultipleChoice**

Which option is incorporated in the dlTune action?

Options:

A- Bayesian Optimization

B- Hyperband Method

C- Genetic Algorithm

D- Simple Random Sampling

Question 7

Question Type: FillInTheBlank

Assume no padding is used for the input.

What is the output feature map size created by the cross-correlation between a three color channel, 10*10 input and a 4"4 filter that has a stride of two?

	*	

Enter your numeric answers in the spaces above

Answer:

Question 8

Given the code specifying the three initial layers of a convolutional network:

```
deepLearn.addLayer / layer={type="INPUT"
                    nchannels=1 width=10 height=10}
                    modelTable={name="simple"} name="data";

deepLearn.addLayer / layer={type="CONVO"
                    nFilters=1 width=5 height=5 padding=1}
                    modelTable={name="simple"} name="conv1"
                    srcLayers={"data"};

deepLearn.addLayer / layer={type='POOL'
                    width=2 height=2 stride=2 pool='max'}
                    modelTable={name="simple"} name="pool1"
                    srcLayers={"conv1"};
```

What is the size of me output tensor (image) ot pool?

Options:

A- 10*10

B- 5*5

C- 8*8

D- 4*4

Question 9

Question Type: **MultipleChoice**

What are two reasons to use a pooling layer in a Convolution Neural Network (CNN)? (Choose two)

Options:

A- to increase granularity of information

B- to make the feature map invariant to transformation

C- to extract features of different spatial scale

D- to extract a summarized value from an area of the image

Answer:

A, C

Question 10

Regularization in neural networks represents a set of techniques devised to accomplish what?

Options:

A- Reduce overfitting

B- Downsample a feature map

C- Minimize the toss function

D- Calculate a softmax

Answer:

C

Question 11

What computation is performed when applying a neural network with Batch Normalization to test data?

Options:

A- and o^2 are estimated using an exponentially weighted average across tram and test sets

B- Normalizations are applied using parameters learned during testing

C- Normalizations are applied using parameters learned during training

D- and o^2 are estimated using an exponentially weighted average across test set

Answer:

A

Question 12

Question Type: **MultipleChoice**

Assume you are using an addLayer call with dcopout=o. 5 to add a pooling layer into a CNN model What is the outcome of the addLayer call?

Options:

A- The values from halt of the output neurons of the pooling layer ate randomly set to zero

B- The output feature map size is increased 2 times on width and height.

C- The values from half of the input neurons to the pooling layer are randomly set to zero

D- The output feature map size is reduced by half on width and height

Answer:

A