AI61002 (DLFA) Worksheet -1

In Table-1, P1, P2, ..., P10 represents the number of parameters and F1, F2, ... , F10 represents the number of flops(operations) for the respective layers (L1,L2,...,L10).
Calculate the number of parameters and Flops for each layer of the convolutional neural network given below for an **input of size 5 × 21 × 21**. The network operates in inference mode, i.e., in the software
library we set model.eval(). Calculate the Flops as the number of **FMA** (Fused-Multiply and Add) operations.

1

P1
(0.5 Points)

TABLE1

Layer Number	Layer	# Params	# Flops
L1	Conv2d: 32c 3w 2s 2p	P1	F1
L2	ReLU	P2	F2
L3	MaxPool2d: 2w 2s 0p	P3	F3
L4	Conv2d: 64c 3w 1s 0p	P4	F4
L5	ReLU	P5	F5
L6	MaxPool2d: 2w 2s 0p	P6	F6
L7	Flatten	P7	F7
L8	Linear: 256 → 128	P8	F8
L9	ReLU	P9	F9
L10	Linear: 128 → 10	P10	F10

1472

2

F1
(0.5 Points)

211968

3

P2
(0.5 Points)

0

4

F2
(0.5 Points)

9216

5

P3
(0.5 Points)

0

6

F3
(0.5 Points)

3456

7

P4
(0.5 Points)

18496

8

F4
(0.5 Points)

295936

9

P5
(0.5 Points)

0

10

F5
(0.5 Points)

2048

11

P6
(0.5 Points)

0

12

F6
(0.5 Points)

768

13

P7
(0.5 Points)

0

14

F7
(0.5 Points)

0

15

P8
(0.5 Points)

32896

16

F8
(0.5 Points)

32896

17

P9
(0.5 Points)

0

18

F9
(0.5 Points)

256

19

P10
(0.5 Points)

1290

20

F10
(0.5 Points)

1290