

Course outline

How does an NPTEL online course work?

Assignment 0

Lecture Material

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

- Lecture 39 : Audio analysis - Determine motor RPM
- Lecture 40 : Spectrogram and Doppler shift
- Lecture 41 : Image processing - Preliminaries
- Lecture 42 : Balloon problem and viscous fingers
- Lecture 43 : Analyzing data files and 2D interpolation

 Quiz : Assignment 8

 Feedback Form

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Assignment 8

The due date for submitting this assignment has passed.

Due on 2021-03-17, 23:59 IST.

As per our records you have not submitted this assignment.

1) In python, which of the following function returns the sample rate (in samples/sec) and data from a WAV file?

1 point

- a. scipy.io.wavfile.read
- b. scipy.io.wavfile.write
- c. scipy.io.read
- d. scipy.io.write

 No, the answer is incorrect.
Score: 0

 Accepted Answers:
a. *scipy.io.wavfile.read*

2) Which of the following function writes a NumPy array as a WAV file in python?

1 point

- a. scipy.io.wavfile.read
- b. scipy.io.wavfile.write
- c. scipy.io.read
- d. scipy.io.write

 No, the answer is incorrect.
Score: 0

 Accepted Answers:
b. *scipy.io.wavfile.write*

3) Which of the following function in python computes the 1-D n-point discrete Fourier Transform (DFT) with the efficient Fast Fourier Transform (FFT) algorithm?

1 point

- a. scipy.fft.ifft2
- b. scipy.fft.ihfft
- c. scipy.fft.fft
- d. None of the above

 No, the answer is incorrect.
Score: 0

 Accepted Answers:
c. *scipy.fft.fft*

4) Which of the following function is used in python to return the Discrete Fourier Transform sample frequencies?

1 point

- a. scipy.fft.fftfreq
- b. scipy.fft.fftfreq
- c. scipy.fft.fftfreq
- d. scipy.fft.fftfreq

 No, the answer is incorrect.
Score: 0

 Accepted Answers:
b. *scipy.fft.fftfreq*

5) Which function in python, find peaks inside a signal based on peak properties?

1 point

- a. scipy.signal.freqz
- b. scipy.signal.lfilter
- c. scipy.signal.find_peaks
- d. None of the above

 No, the answer is incorrect.
Score: 0

 Accepted Answers:
c. *scipy.signal.find_peaks*

6) The matplotlib command ax.set_aspect(1.5) will set the x axis unit

1 point

- a. 1.5 times shorter than y axis unit
- b. 1.5 times longer than y axis unit
- c. 1.5 times shorter than x axis unit
- d. 1.5 times longer than x axis unit

 No, the answer is incorrect.
Score: 0

 Accepted Answers:
a. *1.5 times shorter than y axis unit*

7) In python, if f is 1D array of size n then the command f[0::2] will return

1 point

- a. All the elements from index 0 to n-2
- b. Alternate elements starting from index 0
- c. Element with index 0 and 2
- d. Give error

 No, the answer is incorrect.
Score: 0

 Accepted Answers:
b. *Alternate elements starting from index 0*

8) Which function in PETSc is used to get the number of steps completed?

1 point

- a. TSSetTime()
- b. TSGetTime()
- c. TSGetTimeStep()
- d. TSGetStepNumber()

 No, the answer is incorrect.
Score: 0

 Accepted Answers:
d. *TSGetStepNumber()*

9) Which function in PETSc sets the maximum number of steps to use?

1 point

- a. TSGetMaxTime()
- b. TSSetMaxTime()
- c. TSSetMaxSteps()
- d. None of the above

 No, the answer is incorrect.
Score: 0

 Accepted Answers:
c. *TSSetMaxSteps()*

10) Which PETSc function gets a PETSc vector that may be used with the DM global routines?

1 point

- a. DMCreateLocalVector()
- b. DMGetGlobalVector()
- c. DMCreateGlobalVector()
- d. DMCreateMatrix()

 No, the answer is incorrect.
Score: 0

 Accepted Answers:
b. *DMGetGlobalVector()*