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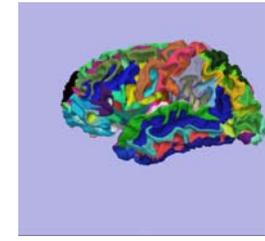
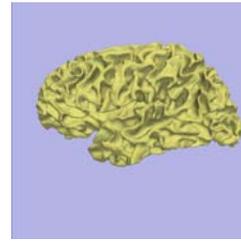
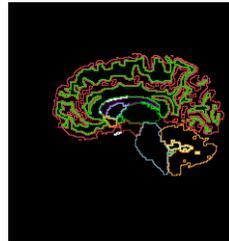
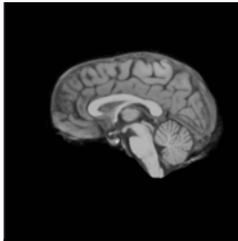
HST.583 Functional Magnetic Resonance Imaging: Data Acquisition and Analysis
Fall 2008

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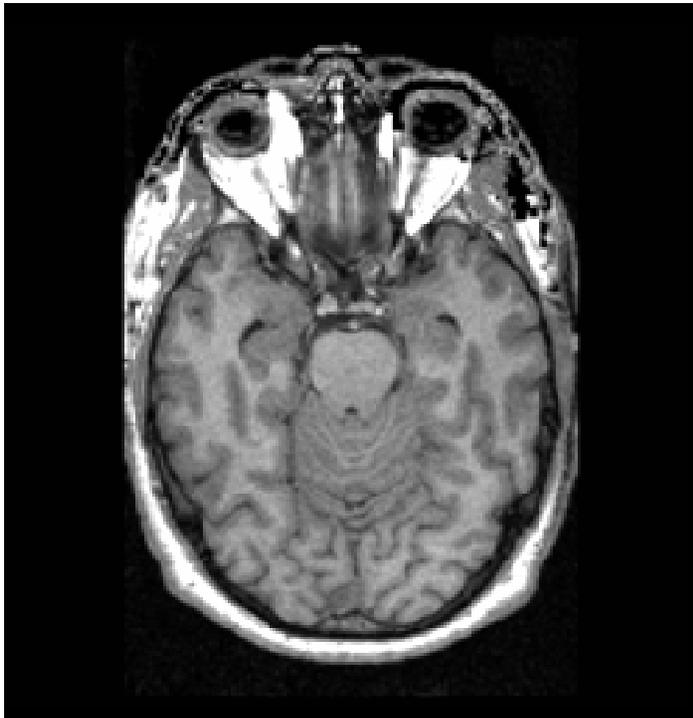
The life cycle of Medical Imaging Data

Course Report

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Question 1



The size of a file containing an uncompressed 256x256 image of short data is 145408 bytes. Where are the pixel data located and how do you access them ?

Question 2



A header file contains the following information:

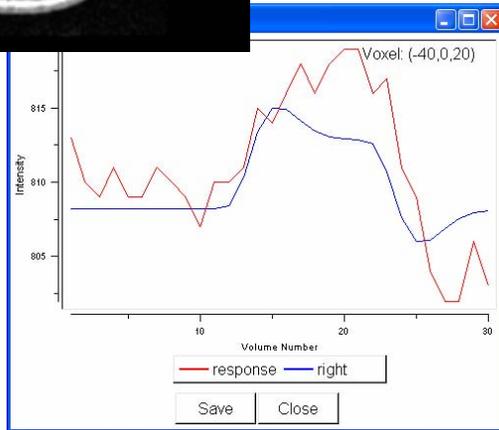
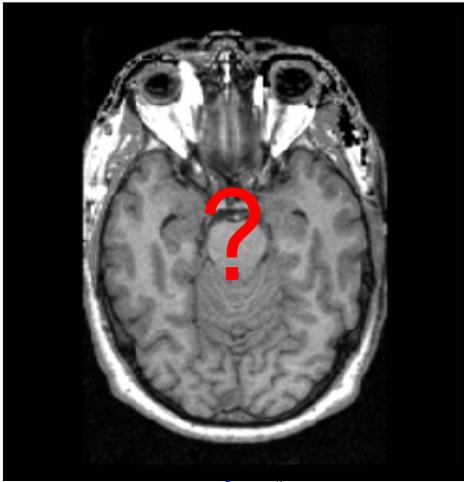
Datatype = short

Bits stored = 11

Highest bit = 15

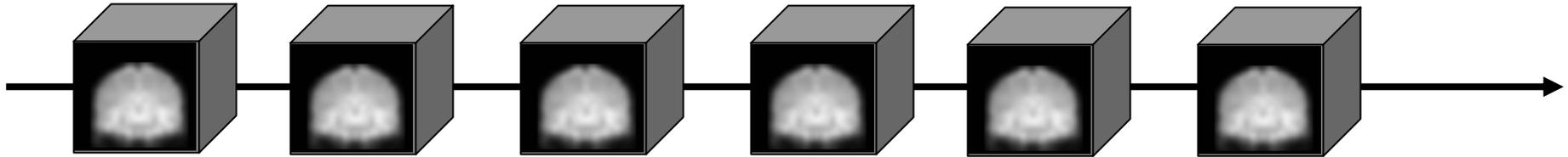
Describe how an image reader would read a single pixel value.

Question 3



What areas in the brain are expected to have paradigm related signal changes during the left hand condition?

Question 4

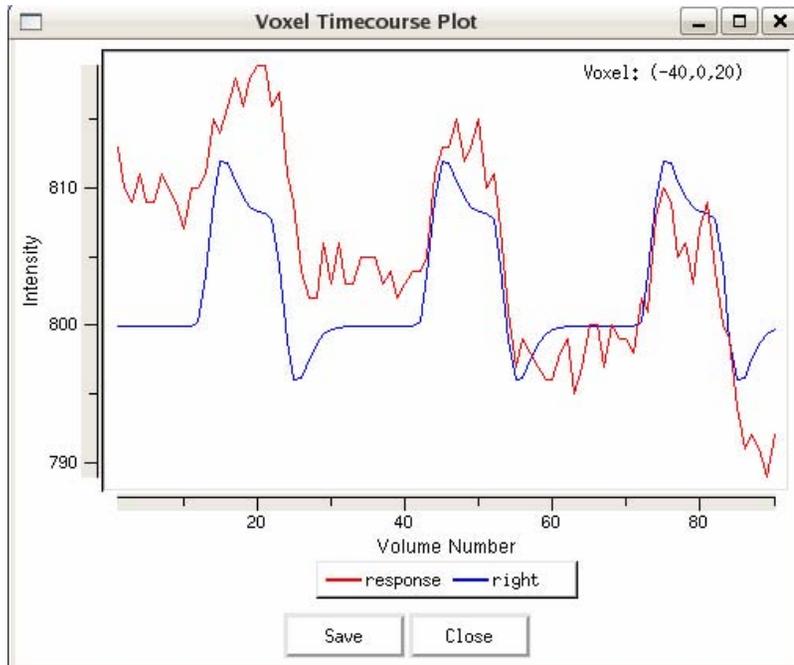


The stimulus schedule for the right hand condition in the dataset fMRI data2 (90 functional volumes) is

- Name = right
- Onset = 10 40 70
- Duration = 10 10 10

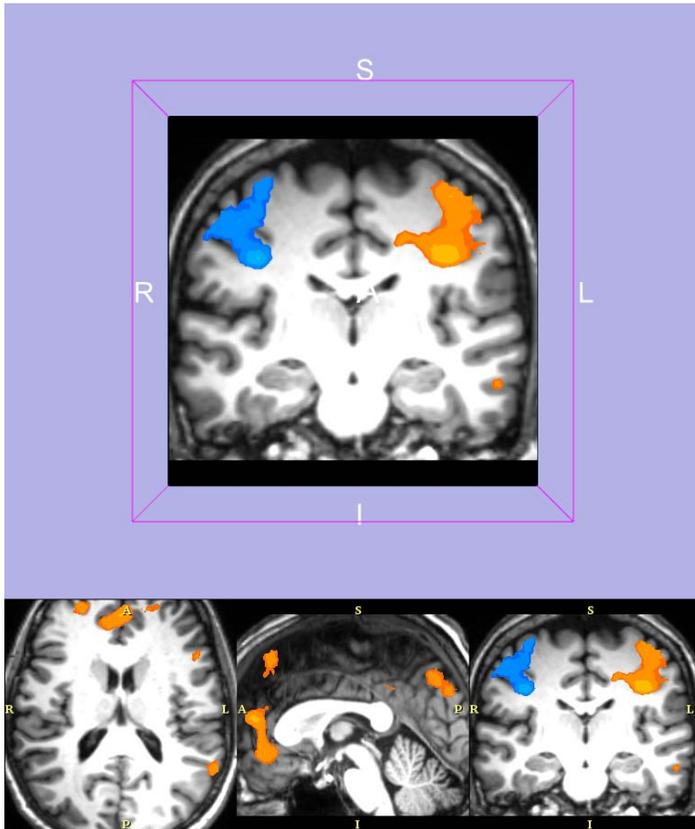
What is the stimulus schedule for the left hand condition ?

Question 5



Perform the same fMRI analysis we did in the lab using the dataset fMRI-data2. Compare the voxel time course and the peristimulus graphs in a region of positive activation. Describe your findings.

Question 6



What would be the result of selecting a p-value lower than 0.001 on the activation map ?