Hello Professor

Greetings of the day!

As I have spoken with you today about my Assignment-02, I am writing an explanation for all the questions below. Please look at my quiz professor. Though i have got an extension of one day but the test was dated till feb 27.

question -01:  What is the purpose of information visualization as a computer science topic?

Correct Answer:  To use well-designed data graphics to help users form insights of information.

Explanation: The main purpose of the IV as a computer science topic is to help users formulate large data into small insights in the different forms of visualisations so that most of the users can get an overview and sometimes can understand the large datasets in the form of viz.

Question-02: What is a color space?

Correct Answer: A set of defined colours.

Explanation: Color space is defined as a set of colors

Question-03: What is the effective receptor in human eyes for color sensing?

Correct Answer: Cone

Explanation: Effective receptor in human eyes for color sensing is Cones by the help of mixing neural signals from cone photoreceptors.

Question-04: What is the effective receptor in human eyes for Motion detecting?

Correct Answer: Rod

Explanation: Rod helps us in motion detecting

Question-05: Which of the following is NOT a necessary component of an effective visualization system?

Correct Answer: **Graphics designed by a professional artist**

Explanation: for effective visualization system we need not required a graphics designed by a professional artist

these are the necessary components: Easy Interaction, Understandable Visual Representations, A user study showing effective communication

Question-06: In designing an information visualization system, what item should NOT be considered?

Correct Answer: **Raw data compression**

Explanation: In designing a information visualisation system we need these things for sure like: Performance of computing power and its effect on interaction, Application requirements, Specific analytical tasks,

But Raw data compression is not needed for us because it is done by the out of the software.

Question-07: Which is NOT a challenge for information visualization?

Correct Answer: Raw data collection

Explanation: Raw data collection is not a challenge for the Information visualisation because we can collect data from anywhere.

whereas Limited display area/resolution makes issue in the output of viz,

Cluttering, Human visual perception capability plays a key role if the user cant see the viz as per his wish then it is going to be challenge for him.

Question-08: Why do we use three values (not four or two) to represent a colour in computer systems?

Explanation: In computer systems, a colour is represented by three numbers: red, green, and blue. This is because the three values correspond to the amounts of red, green, and blue light utilized to produce the color. In reality, red, green, and blue are referred to as primary colours. Because we may mix these three colors to make other colours, they are referred to as primary colors. Red, green, and blue are the three primary colors used to combine colored light, which is a combination of all three primary hues. Because RGB in light generates white, a white computer screen is composed of tens of thousands of individual segments of red, blue, and green. If you see a water droplet on a white screen, you'll commonly see a rainbow of colors.

Physical items that can be combined in subtractive color mixing include paint, dye, and ink. Yellow, Cyan, and Magenta, or CMY, are combined to create black K for black, also known as Key.

some important information from lecture notes: LCD screens have color filters that let different intensities of R, G, and B pass through each pixel. Pixels of different colors blend into color.

Computers can use what we perceive since they make light rather than combining pigments to create color, therefore they don't need to do that.

Question-09:  Here is a small sample of the data table from Fisher’s Iris data:

| **Sepal length** | **Sepal width** | **Petal length** | **Petal width** |
| --- | --- | --- | --- |
| 5.1 | 3.5 | 1.4 | 0.2 |
| 4.9 | 3.0 | 1.4 | 0.2 |
| 5.7 | 3.2 | 1.3 | 0.2 |
| 5.9 | 3.0 | 5.1 | 1.8 |

Please visualize this table with a parallel coordinate plot (PCP).

You may use Excel, XmdvTool, Tableau or any visualization software that you like. Upload the data file you created with the visualization, and a screenshot showing the completed visualization.

Alternatively, you may draw it (neatly) on the following empty PCP by hand and upload a scan of your visualization.

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Warm Regards

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