Central Administration for General Education

Educational Computer Material Development Department

Under the patronage of His Excellency the Minister of Education,

Mr. Mohamed Abdel Latif

Weekly Assessments for Programming and Artificial Intelligence for General Education (First Secondary Grade)

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Seventh Week

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Weekly assessment

First test

First:

1. **Explain what is meant by the concept of "Image Digitization" and how a real image is converted into digital data understood by the computer?**
2. **What is meant by the term "Pixel" and its fundamental role in building digital images?**

Put (√) mark in front of the correct statement and (×) mark in front of the wrong statement:

3. **As the number of pixels in an image increases, its overall resolution and clarity decrease. ( )**

Choose the correct answer:

4. The process in which an image is divided into a grid of dots and small squares is called:

A) Digital compression

B) Image digitization

C) Text encryption

D) Audio processing

Second test

First:

1. **How does color depth affect the image file size and the number of colors that can appear in it?**
2. **Explain the importance of the "data design" phase when building software systems and databases?**

Put (√) mark in front of the correct statement and (×) mark in front of the wrong statement:

3. **Single-color (black and white) images require fewer bits per pixel compared to full-color (True Color) images. ( )**

Choose the correct answer:

٤. **The primary goal of the data design process in modern systems is:**

- **A) Unnecessarily increasing storage space**
- **B) Organizing and arranging data for easy access and processing**
- **C) Slowing down software response speed**
- **D) Permanently deleting data after it is entered**

Third test

First:

1. **What are the basic criteria or rules that must be considered when designing data structures within software?**
2. **Mention the consequences resulting from poor data design in information systems and databases?**

Put (√) mark in front of the correct statement and (×) mark in front of the wrong statement:

3. **Good data design directly helps in reducing the possibility of inconsistency or conflict in the entered data. ( )**

Choose the correct answer:

٤. **One of the most important pillars of effective data design is avoiding:**

A) Organizing tables

B) Unnecessary data duplication

C) Linking fields to each other

D) Accurately defining data types

Classroom Assessment:

First:

1. **What are the main factors that cause an increase in the size of the digital image file resulting from the digitization process?**

2. **How does good data design contribute to facilitating the process of future modification and development of software?**

Put (√) mark in front of the correct statement and (×) mark in front of the wrong statement:

3. **Converting analog images to digital requires representing them in the form of continuous, uninterrupted signals. ( )**

Choose the correct answer:

4. **The correct first step when wanting to design a data structure for any new application is:**
   A) Randomly deleting all previous data
   B) Analyzing and understanding the data and information requirements
   C) Randomly choosing a programming language
   D) Printing the system's outputs immediately

Homework Assignment:

First:

1. **Explain how colors are represented within a digital image using common computer color systems such as (RGB)?**
2. **What is meant by "Data Types" in the design phase and how important is it to define them accurately?**

Put (√) mark in front of the correct statement and (×) mark in front of the wrong statement:

3. **There is no connection between the quality of data design and the performance efficiency of the software system. ( )**

Choose the correct answer:

4. **The color system that relies on a mixture of colors (red, green, and blue) to generate digital colors is symbolized by:**
   - **A) CMYK**
   - **B) RGB**
   - **C) RAW**
   - **D) PDF**