Section 06.2 - Data Integrity

Layer 7: Application

Syllabus Content Section 06: Security, Privacy and Data Integrity

✏️ **S06.2.1 Describe how data validation and data verification help protect the integrity of data** ⌄

Data validation

Validation = Correct format
Many ways to check this, usually you use more than one way at the same time:

Range Check
Format Check
Length Check
Presence Check
Existence Check
Limit Check

Data verification

Data Verification during data entry methods are:
Visual Check
Double Entry

Data Verification during data transmission methods are:

1. ARQ
2. Check digit (NOW CAMBRIDGE SAYS THIS IS DATA VALIDATION)
3. Checksum
4. Parity bit
5. Parity byte

✏️ S06.2.2 Describe and use methods of data validation ⌄

- Including range check, format check, length check, presence check, existence check, limit check, check digit

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Range Check

Makes sure what you type is in the acceptable range
Example: Your age must be from 1 to 140

Format Check

Checks to make sure you have the correct format / data type
Example 1: Age should be a number and not text (36 is okay, thirty-six is bad)
Example 2: Your student ID should have a letter and 3 numbers (S123 is okay, SF12 is not)

Length Check

Make sure you type in enough characters or digits
Example: Your password must have 6 characters (123456 is okay, 1234 is bad)

Presence Check

Make sure that something is written
Example: You MUST type in your email address or phone number

Existence Check

The only type of existence check is when you want to move a file into a new folder, the computer checks if the folder is actually there. But this is NOT validation for us....But I don't know what it is.... Find out and lets see if it makes sense.

Limit Check

Checks to see if what you typed is within the lowest value or highest value
Example 1: You must type a number bigger than 5
Example 2: You must type a number smaller than 999
Range check, checks both the lower and upper to make sure you are between these vales, Limit check just checks one end.

✏️ S06.2.3 Describe and use methods of data verification during data entry and data transfer ⌄

- During data entry including visual check, double entry
- During data transfer including parity check (byte and block), checksum

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Verification when data entry

When you sign up and it asks for your password twice.
Its checking to make sure the data you want to use is correct
Its verifying your data

Some websites make you validate your data also and say you must have capital letters or numbers also.

Validation = correct format
Verification = correct data