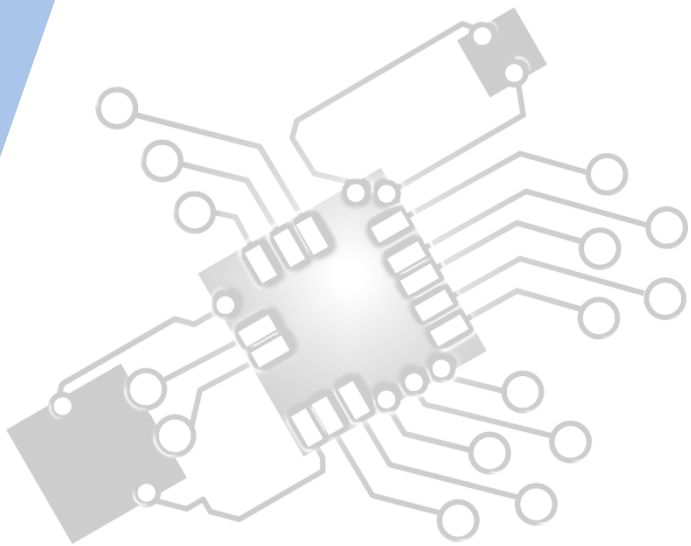
Planning & system installation

IB Computer Science



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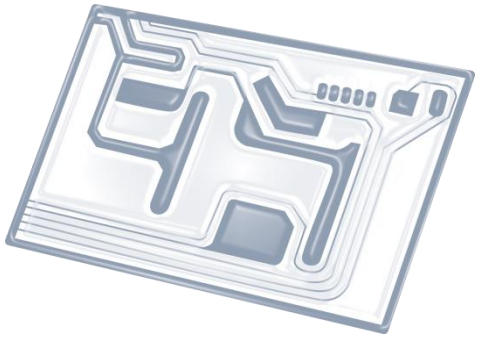
Computer Science Department

HL Topics 1-7, D1-4



1: System design

2: Computer Organisation

3: Networks

4: Computational thinking

5: Abstract data structures

6: Resource management

7: Control

D: OOP

HL & SL 1.1 Overview

Planning and system installation

1.1.1 Identify the context for which a new system is planned.

1.1.2 Describe the need for change management

1.1.3 Outline compatibility issues resulting from situations including legacy systems or business mergers.

1.1.4 Compare the implementation of systems using a client's hardware with hosting systems remotely

1.1.5 Evaluate alternative installation processes

1.1.6 Discuss problems that may arise as a part of data migration

1.1.7 Suggest various types of testing

User focus

1.1.8 Describe the importance of user documentation

1.1.9 Evaluate different methods of providing user documentation

1.1.10 Evaluate different methods of delivering user training

System backup

1.1.11 Identify a range of causes of data loss

1.1.12 Outline the consequences of data loss in a specified situation

1.1.13 Describe a range of methods that can be used to prevent data loss

Software deployment

1.1.14 Describe strategies for managing releases and updates

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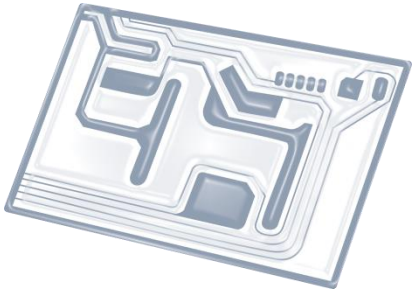
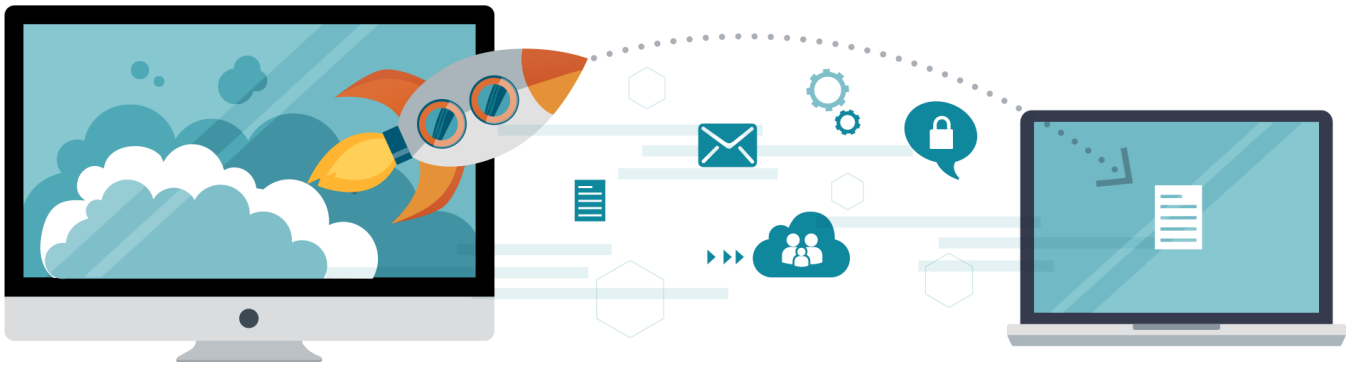


Topic 1.1.6

Discuss **problems** that may arise as a part of **data migration**

Data migration = moving data

- Data migration can be as simple as putting **a file on a USB flash drive** and opening it on another computer.
- It is can also be very complex involving big databases **exchanging information** across countries into different time zones.

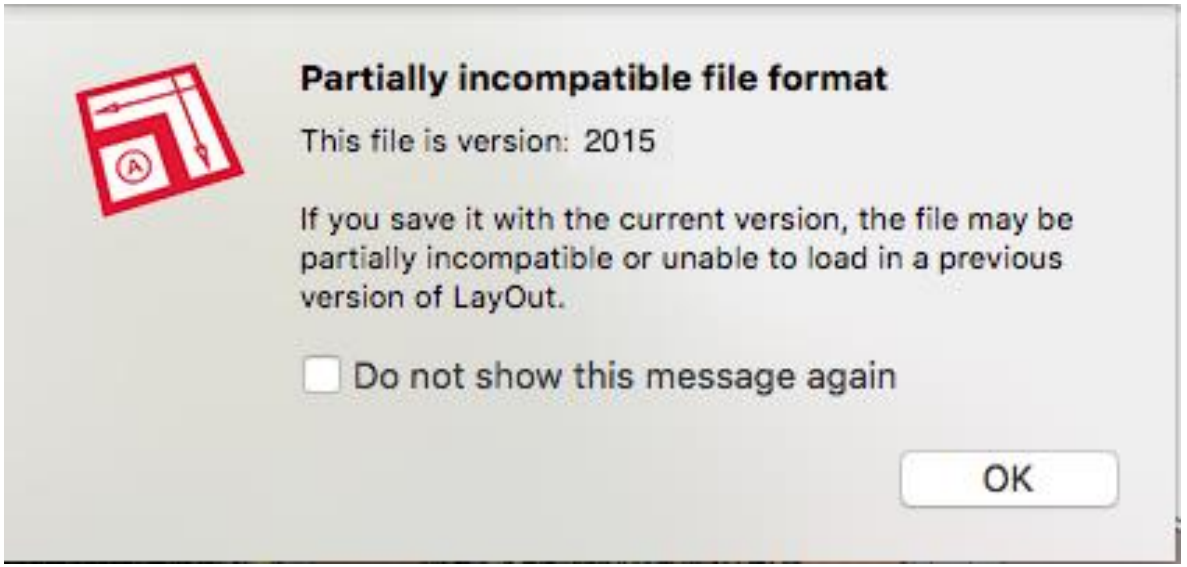


Possible problems that may arise

- Incompatible file formats
- Data structure differences
- Validation rules
- Incomplete data transfers
- International conventions on dates, currencies & character sets

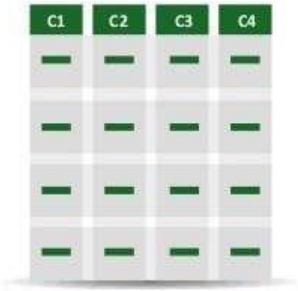
Incompatible file formats

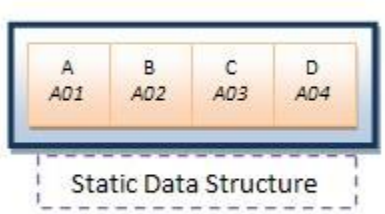
- As the same piece of software might have different versions, the data created in one version, might not be compatible with another version.

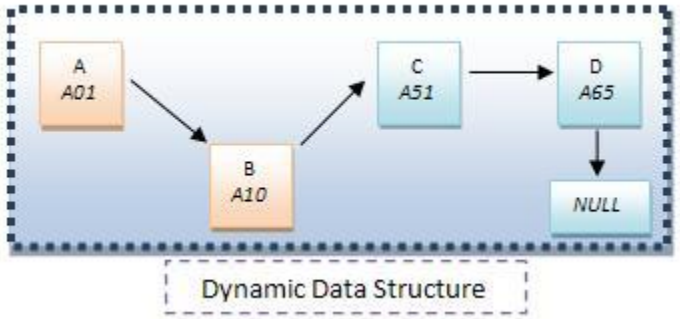


Data structure differences

- Moving data from a table to a flat file, or from an array to a linked list, might cause a lot of problems.

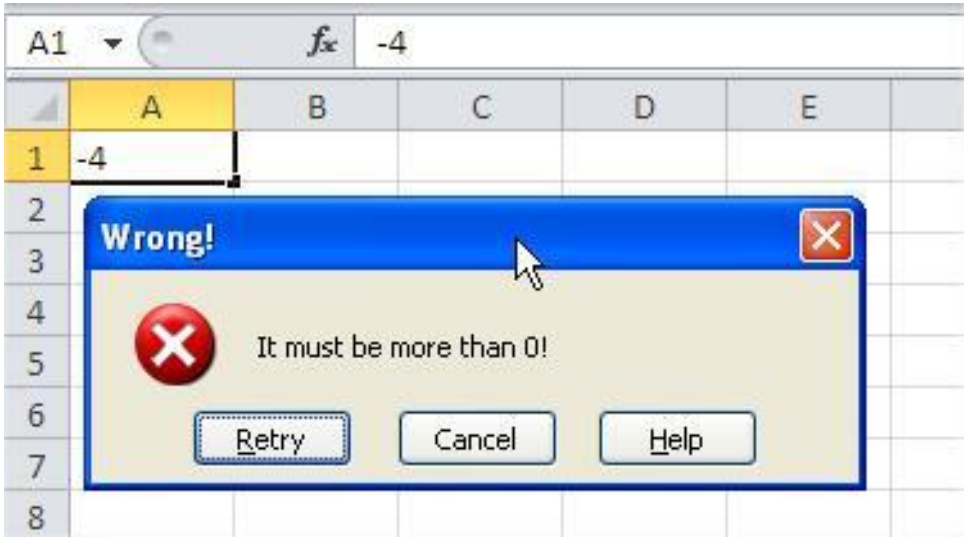


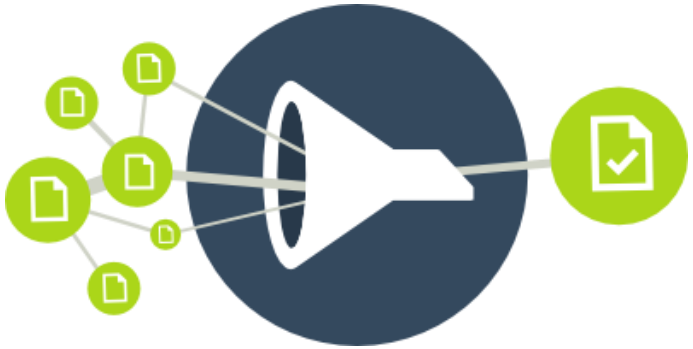




Validation rules

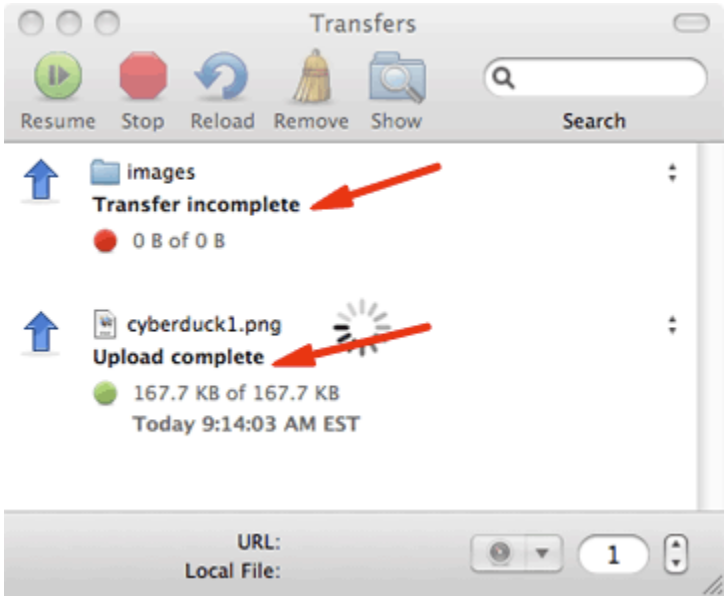
- These rules are applied to inputs. If these are different at the destination than at the source, data will be rejected and lost.





Incomplete data transfers

- If the actual transfer is interrupted, only part of the data will be at the destination, leading to loss.

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File incomplete.
Continue anyway?
  Yes
>No
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Differences in data/currency/character set

- In the UK, 3/5/18 means 3 May 2018, but it means 5 March in the USA
- The $ might mean US dollars, but could be taken to mean Zimbabwe dollars which use the same symbol but is worth significantly less.
- A set of character used in one country, e.g. ﷼ in Saudi-Arabia, might be copied as ?? on Russian computer.

€ ≠ E