

11.1C System life cycle



System lifecycle stages



Learning objectives

Analyse the advantages and disadvantages of cyclical, waterfall and spiral models

Describe data collection methods

Compare different data analysis techniques

Compare alternative solutions to a problem in order to choose the most effective algorithm

Develop a system requirement based on collected information

Use data flow diagrams (DFD) to input, process, store and output data in computing systems

Use flow charts to input, process, store and output data in computing systems



Success criteria

Analyse the advantages and disadvantages of cyclical, waterfall and spiral models

Describe data collection methods and identify advantages and disadvantages of

Compare alternative solutions to a problem in order to choose the most effective algorithm

Develop a system requirement based on collected information

Draw data flow diagrams (DFD) to input, process, store and output data in computing systems

Draw flow charts to input, process, store and output data in computing systems



Scenario - Discussion

Dave is a senior manager with Facebook. They have an idea for a new product and wants your company to develop it for him. At the minute the details of the product are not completely know as Dave is still unsure of how the application will look. The budget is endless for this project.

What SDLC model would you use?



Solution	Advantages	Disadvantages

Describe data collection methods



There are four methods which are used to obtain this information:

- Questionnaires
- Interviews
- Observing people using the current system
- Looking at the current system's documentation

These methods will be discussed in additional material “read book 1.pdf”



1. **Describe 3 advantages** and **3 disadvantages** of gathering information via questionnaires
2. **Describe 3 advantages** and **3 disadvantages** of gathering information via interviews
3. **Describe** as many **advantages** and **disadvantages** as you can find of gathering information via observations (research some of your own)
4. **Describe 3 advantages** and **3 disadvantages** of gathering information via the current systems documentation

Success criteria

1. Describes **3 advantages** and **3 disadvantages of given data collection method**

DFD



Formative Assessment

Draw a Data Flow Diagram (DFD) showing the **dataflows, processes, external entities** and **datastores** of data in an **Appointment Booking** system for a hairdresser.

A customer can book an appointment online. The hairdresser will have a schedule generated for her each day with all her appointments for the day.

*The **Appointment Booking System** Data Flow Diagram contains eight dataflows, two processes, two external entities and one data store:*



Draw flowchart the following scenario

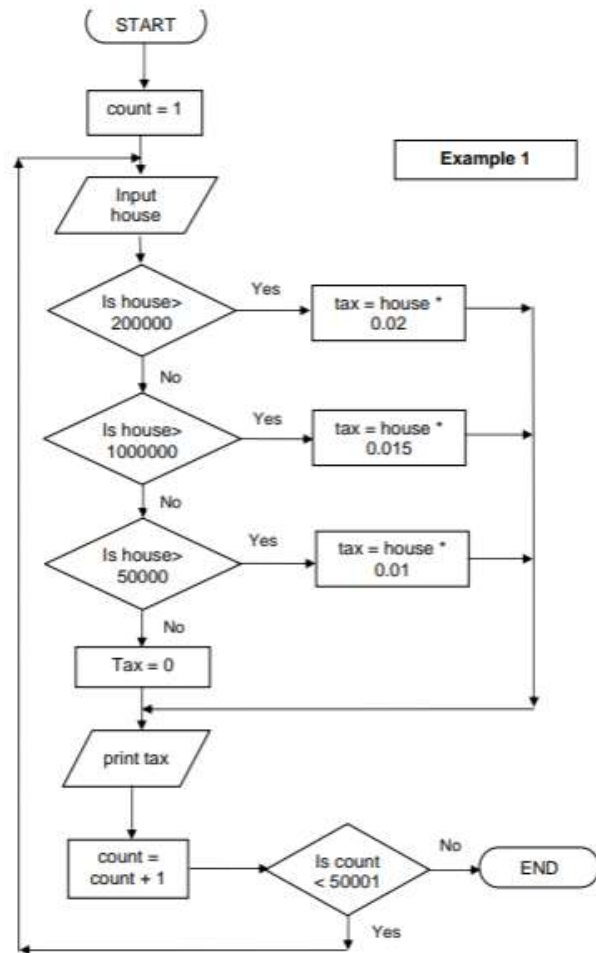
A town contains 5000 houses. Each house owner must pay tax based on the value of the house. Houses over \$200 000 pay 2% of their value in tax, houses over \$100 000 pay 1.5% of their value in tax and houses over \$50 000 pay 1% of their value in tax. All others pay no tax. Write an algorithm to solve this problem in the form of a flowchart.

Descriptors

Uses input/output figures

Uses conditionals

Uses the correct course of actions





Individual summative assessment preparation

https://www.bzfar.org/news/podgotovka_k_summativnomu_ocenivaniju_za_1_chetvert/2023-10-12-91



Questions?



Reflection

- 1) I felt that ...
- 2) It was interesting ...
- 3) I was surprised ...
- 4) By my work in the class I ...
- 5) The material of the lesson was ...
- 6) I wanted to ...
- 7) I most succeeded ...
- 8) My mood ...
- 9) I can praise my classmates ...