Task A

1. Explain the purpose of a Data Flow Diagram (DFD)

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| A DFD is a process in which organisations can see information flows through a system in a logical order. It provides the opportunity to see how inputs and outputs of data and processed and stored. |

1. Below is an example of a process used in a DFD. In the second box, complete your own process for a customer withdrawing money for a cash machine.

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| Example: |
| Customer cash withdrawal example:  Withdrawal request  Money withdrawn  Withdrawal amount <= Balance  Balance updated  Customer |

Task B

1. Explain the purpose of a decision table.

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| This is a method testing captured in tabular form and used to assess different input combinations to analyse the behaviour of the system (i.e. what data is outputted as a result) |

1. Using the example from the previous task. A customer wants to make a cash withdrawal. If the customer does not have enough funds then they can agree to an overdraft. If they agree, then they can withdraw the cash which must be paid back at a later date. If they do not decide to take up the overdraft option then the withdrawal attempt is denied.

Complete a decision table for the scenario stated above.

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| **Condition** | **Scenario 1** | **Scenario 2** | **Scenario 3** |
| Withdrawal amount <= Balance | T | F | F |
| Overdraft agreed | F | T | F |
| Actions |  |  |  |
| Withdrawal granted | T | T | F |

Task C

1. Explain the purpose of a data dictionary.

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| A data dictionary is used to outline the structure of a database by defining fields and their characteristics. This helps to establish a data structure, query structure and any validation required in the system. |

1. Complete the data dictionary below outlining a database on customers details using the bank example from previous tasks.

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| **Field name** | **Data type** | **Format** | **Field size** | **Description** | **Example** |
| Account No. | Integer | NNNNNNNN | 8 | Unique account number for all customers | 12345654 |
| Surname | Text |  | 20 | Surname of customer | Smith |
| First name | Text |  | 20 | First name of customer | David |
| Address | Text |  | 50 | Address of the customer | 33 Clay Drive |
| Phone Number | Text |  | 11 | Contact details of the customer | 07989 111111 |
| Date of Birth | Date/Time | DD/MM/YYYY | 10 | Data of birth of the customer | 07/07/1960 |