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|  | Faculty of Computing, Engineering and Science |  |

**Assessment Cover Sheet and Feedback Form** 2022-23

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| Module Code:  IS4S761 | Module Title:  Principles of Computing | | Module Team:  Gaylor Boobyer |
| Assessment Title and Tasks:  Portfolio 1 - Element 2 | | | Assessment No.  1 |
| Date Set:  **14-Oct-22** | | Submission Date:  **02-Dec-22** | Return Date:  **09-Jan-23** |

**IT IS YOUR RESPONSIBILITY TO KEEP RECORDS OF ALL WORK SUBMITTED**

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| **Marking and Assessment** |
| This assignment will be marked out of 100%  This assignment contributes to 25% of the total module marks. |
| **Learning Outcomes to be assessed** (as specified in the validated module descriptor [https://icis.southwales.ac.uk/](https://icis.southwales.ac.uk/studentmodules/13802/studentmodulespecifications) ):  1) To demonstrate a practical understanding of the design of information systems.  2) To design and implement a database system that meets a set of requirements and avoids data redundancy. |
| *Provisional mark only: subject to change and / or confirmation by the Assessment Board* |

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| ***Part A: Record of Submission (to be completed by Student)*** | |
| **Extenuating Circumstances**  If there are any exceptional circumstances that may have affected your ability to undertake or submit this assignment, make sure you contact the Advice Centre on your campus prior to your submission deadline. | |
| **Fit to sit policy**:  The University operates a fit to sit policy whereby you, in submitting or presenting yourself for an assessment, are declaring that you are fit to sit the assessment. You cannot subsequently claim that your performance in this assessment was affected by extenuating factors. | |
| **Plagiarism and Unfair Practice Declaration:**  By submitting this assessment, you declare that it is your own work and that the sources of information and material you have used (including the internet) have been fully identified and properly acknowledged as required[[1]](#footnote-1). Additionally, the work presented has not been submitted for any other assessment. You also understand that the Faculty reserves the right to investigate allegations of plagiarism or unfair practice which, if proven, could result in a fail in this assessment and may affect your progress. | |
| **Details of Submission:**  Note that all work handed in after the submission date and within 5 working days will be capped at 40%[[2]](#footnote-2). No marks will be awarded if the assessment is submitted after the late submission date unless extenuating circumstances are applied for and accepted (Advice Centre to be consulted).  You are responsible for checking the method of submission. This is an INDIVIDUAL coursework. | |
| **You are required to acknowledge that you have read the above statements by writing your student number in the box:** | Student Number(s): |

**IT IS YOUR RESPONSIBILITY TO KEEP A RECORD OF ALL WORK SUBMITTED**

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| **Part B: Marking and Assessment**  **(to be completed by Module Lecturer)** |
| This is an INDIVIDUAL coursework.  This assignment will be marked out of 100%  This assignment contributes to 25% of the total module marks. |
| **Assessment Task:**  Using the scenario given in Appendix A and the ERD from Appendix B analyse the requirements and then **produce one Word document** that includes:  a) The table definitions (in **SQL**) for the following tables:  (Refer to the later queries in order to determine sensible attributes for each of  these tables.)   * Potential Buyer * Staff Member * Seller * Sale Property * Viewing Appointment   **Only the above tables need to be created for this coursework**.  Remember to define a primary key and foreign key(s) where necessary.  (Hint: Refer to ERD from Appendix B)    b) Populate your tables with **sensible** data.  (Remember you have to use this data in order to satisfy the following queries.)  List the data contained in each of these tables in your Word document.    c) Write the SQL statements necessary to satisfy the following queries. Remember to use sensible headings where appropriate:    (Produce the SQL together with the corresponding output in your Word document)  (1) Produce a list of properties in a particular area (E.g Pontypridd)  N.B. Use an area based on your entry data.  **(3 marks)**  (2) List all semi-detached properties that have been sold.  **(4 marks)**  (3) Output the number of properties that have been sold for each property type.  Your output should look something like this:  Type Number Sold  Detached 5  Semi-detached 2  Terrace 1  Link 8  **(6 marks)**  **Assessment Task: Cont.**  (4) Output the most expensive and the least expensive properties for sale. Only ONE query should be used here.  Remember some properties will be classed as ‘sold’ on the system!  Use sensible headings.  **(6 marks)**  (5) Produce a list of properties that satisfy the following requirements:  *At least 3 bedrooms, at least 1 bathroom, has a garage*  N.B. Make sure that some of your data can satisfy these requirements  **(5 marks)**  (6) Produce a list of properties that were put on the market in January and February of 2022.  **(6 marks)**  (7) Output the most expensive and the least expensive properties for sale for each type of property. Again, remember some properties will be classed as ‘sold’ on the system!  Use sensible headings.  **(6 marks)**  (8) Produce a list of properties where viewing appointments will be supervised by a particular member of staff (e.g. G Morgan). Use the staff member’s name and staff number in your output.  N.B. Use a staff member based on your entry data.  **(8 marks)**  (9) Produce a list of viewing appointments to include the potential buyer’s name, the seller’s name, the property’s address, the staff member’s name and the date and time of the appointment.  **(11 marks)**  **Up to 10 extra marks are available for answers to the above queries that are exceptional.**  . |
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| **Learning Outcomes to be assessed**(as specified in the validated module descriptor <http://icis.glam.ac.uk>):  To design and implement a database system that meets a set of requirements and avoids data redundancy.   |  |  |  | | --- | --- | --- | | **Marking Scheme** | **Marks Available** | **Marks Awarded** | | Table definitions in SQL (DDL) | 30 |  | | Sensible table population | 5 |  | | Specified SQL statements (DML) | 55 |  | | Exceptional elegance of SQL queries | 10 |  | | **Total** | 100 |  | |

**Assessment Criteria:**

Please see Appendix C

**Appendix A**

**Peter Darwins Estate Agency**

An estate agency, Peter Darwins, has a number of branches in the Rhondda Cynon Taff area. Each branch deals with both property purchase and property rental. Each property is only dealt with at one branch and no property can be for sale and rent at the same time. Details on staff employed at each branch, together with information on the manager of that branch need to be kept. In addition, information needs to be retained re: properties, rental clients, property sellers and potential buyers.

**Rental Properties**

Each rental property is assigned to a particular member of staff. Clients are allowed to specify:

The maximum length of each lease (rental period). For example: 6 months.

Whether pets are allowed.

Whether families with children are allowed.

Details are recorded about each client and on each property they wish to rent. For example:

Property code.

Area.

Address.

No. of bedrooms.

No. of bathrooms.

No. of reception rooms.

Whether the property has a garage.

Type of property (Detached, Semi-detached, Terrace, Link).

Monthly rental.

Details are also kept on the customers who rent these properties (ignore the fact that usually a credit check would carried out and that two references would need to be provided before a new customer is allowed to rent a property).

A record is kept of recent past rentals, future rentals in addition to the current rentals.

**Properties to be Sold**

There are no particular allocations of staff to those properties to be sold. For each property to be sold, information is kept on both the seller and his/her properties.

Details to be kept with regard to the property are:

Property code.

Area.

Address.

No. of bedrooms.

No. of bathrooms.

No. of reception rooms.

Whether the property has a garage.

Type of property. (Detached, Semi-detached, Terrace, Link)

Whether the property is freehold or leasehold.

Price.

Current state of property. (Unsold, Sold).

Date placed ‘on the market’.

Details are also kept with regard to those customers who are interested in buying a property:

Buyer No.

Name.

Address.

together with a (very) simplified set of requirements:

Area.

Minimum no. of bedrooms.

Minimum no. of bathrooms.

Minimum no. of reception rooms.

Garage required/not required.

Maximum Price.

Prospective buyers make appointments to view properties from lists of all properties that satisfy their requirements. These lists are produced by the system but DO NOT need to be an entity on your diagram.

A member of staff is assigned to accompany prospective buyers to each viewing appointment. Once a buyer puts in an offer for a property, the seller is informed and if the offer is accepted, the status of the property changes to ‘Sold’. Again, for simplicity, ignore the ‘selling process’ – simply changing the properties status to sold is adequate for this coursework.

**Appendix B**

**Partial ERD for Peter Darwin’s Estate Agency**

Potential

Buyer

1..1

0..\*

0..\*

0..\*

1..1

1..1

Viewing

Appointment

Sale

Property

Staff

Member

1..\*

1..1

Seller

**Appendix C**

# Marking Scheme:

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|  | Fail | Narrow Fail | 3rd Class / Pass | Lower 2nd Class / Pass | Upper 2nd Class / Merit | 1st Class / Distinction |
| Table definitions in SQL (DDL) 30% | * Relations/Tables missing.Primary keys, foreign keys and not null/null used incorrectly in most instances | * Relations/Tables missing.Primary keys, foreign keys and not null/null used incorrectly in most instances | * No Relations/Tables missing.Primary keys, foreign keys and not null/null used incorrectly in many instances | * No Relations/Tables missing.Primary keys, foreign keys and not null/null used incorrectly in some instances | * No Relations/Tables missing.Primary keys, foreign keys and not null/null used correctly in many instances | * No Relations/Tables missing.Primary keys, foreign keys and not null/null used correctly in most/all instances |
| Sensible Table Population 5% | * No tables populated with no data. Data inadequate to perform later queries | * None/some tables populated with no/some data. Data inadequate to perform later queries | * All tables populated with some data. Data mostly adequate to perform later queries | * All tables populated with a reasonable amount of data. Data suitable to perform later queries | * All tables populated with a good amount of data. Data suitable to perform later queries. Most table data size relates to expected table size based on the relationship between tables | * All tables populated with a good amount of data. Data suitable to perform later queries All table data size relates to expected table size based on the relationship between tables |
| SQL DML statements 55% | * Very few SQL statements that meet the information retrieval requirements detailed in the scenario | * Many SQL statements that do not meet the information retrieval requirements detailed in the scenario | * SQL statements that meet some of the information retrieval requirements detailed in the scenario | * Some SQL statements that do not meet the information retrieval requirements detailed in the scenario | * SQL statements that meet many of the information retrieval requirements detailed in the scenario | * SQL statements that meet all of the information retrieval requirements detailed in the scenario |
| Exceptional elegance of SQL queries 10% | * No attempt at SQL statements that produce innovative/ exceptional code | * V. Little attempt at SQL statements that produce innovative/ exceptional code | * Little attempt at SQL statements that produce innovative/ exceptional code | * Some attempt at SQL statements that produce innovative/ exceptional code | * Some very good attempts at SQL statements that produce innovative/ exceptional code | * Excellent attempt at SQL statements that produce innovative/ exceptional code |
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1. University Academic Integrity Regulations [↑](#footnote-ref-1)
2. Information on exclusions to this rule is availablefrom Campus Advice Shops [↑](#footnote-ref-2)