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| **Section 1 – General Assessment Information** | |
| **Decision Making Rules** | Every task must be completed satisfactorily to be assessed as competent in the unit.  *\* For graded units, competence must be demonstrated before a mark can be given.* |
| **Reasonable Adjustment** | Students may request reasonable adjustment for assessment tasks.  Reasonable adjustment usually involves varying:   * the processes for conducting the assessment (eg: allowing additional time, varying the venue) * the evidence gathering techniques (eg: oral rather than written questioning, use of a scribe, modifications to equipment)   However, the evidence collected must allow the student to demonstrate all requirements of the unit. |
| **Special Consideration** | Students can apply for Special Consideration where personal circumstances have adversely affected their task result or ability to undertake an assessment. A Special Consideration form can be completed prior to, but no later than 3 days after, the date of the assessment and submitted to the relevant Manager. |
| **Re-submission** *(where tasks are not satisfactorily completed)* | Assessment tasks that are not satisfactory can be resubmitted up until the end of the unit as scheduled on the Unit Outline. The timing on this may depend on the equipment required for this assessment task.  **NOTE**: Assessment tasks submitted for the first time after the end of the unit as scheduled on the Unit Outline will not be assessed and student should be told to re-enrol in the unit. |
| **Plagiarism** | There are serious penalties for plagiarism. Students must ensure that all assessments are their own work (or group work).  Please refer to <https://www.swinburne.edu.au/current-students/manage-course/exams-results-assessment/plagiarism-academic-integrity/> |

| **Section 2 – Student and Assessor Instructions** | |
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| **Conditions** | *Must be completed in class within a given three hour time limit*  *Enterprise Architect must be used to create diagrams*  *Keep this document open as the assessor will provide feedback on the open document. Changes may be made to the submission based on feedback.*  *When the assessor has completed this assessment they will sign off with a code unique to you, do not leave until this code is entered in the assessor signature section.* |
| **Task Overview and/or Description** | **Dod&Gy Movie Distribution**  Dod&Gy have started a movie selling business. They need a proof of concept to perform some CRUD on their existing database. Unit Testing will also be required  The structure of the database and current movies catalogue is included in the accompanying .sql file.  *User input:* could be from console input or sent via http/s to a RestApi  **Pre-Task:**   1. Deploy movies.sql to a DBMS 2. Create a GitHub repository for the project 3. Create C# classes to represent Movies and Actors    1. Movie class has methods       1. NumActors – returns the number of actors cast in the movie as an int       2. GetAge – returns how old the movie is from the current year as an int    2. Actor class has method       1. setFullName – sets the fullname of the actor which is the givenname and surname with a space in between 4. (optional) deploy the program to a cloud service   **Test Task:**   1. Create a test plan in Excel for the Movie class, each unit test should have at least five cases. Implement the unit tests.    1. Check that the num actors method provides the correct output.    2. Check that the GetAge method returns the correct output   **Exceptions Task**   1. Connect the database to the one found at:    * url: no.database.here.com    * username: Wally    * password: Where    * dbname: Is   Catch the resulting exception and redirect the connection to your database.  **Read Task:**   1. Read all movies from the database into a list named Movies. 2. In your program access the database and display the titles for all the movies with title that begin with the word “The” (case insensitive) 3. Access the database and display all the titles for all movies that *Luke Wilson* has been cast in 4. Using the list Movies created in step one, display the total running time of all movies   **Update Task**   1. In your program, provide a way to change a movie’s runtime found by title. New title to be obtained via user input. Change must be reflected in the DB. 2. Provide a way to change an actor’s surname and fullname, found by givenname and surname. New surname to obtained via user input. Change must be reflected in the DB.   **Create Task**   1. From user input, create a movie object. Use this object to create a new entry in the Movie table of the database 2. From user input, create an actor object. Use this object to create a new entry in the Actor table of the database 3. Provide a way to cast an actor to a movie. |
| **How the Assessment will be Conducted** | *Assessment to be completed and demoed to teacher* |
| **Submission Details** | 1. Link to GitHub repo 2. Arrange a time to demo to your teacher 3. Marking Guide - below |

| **Section 3 – Assessment Criteria (Evidence to be Provided by the Student)** |
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| All of the required evidence within the task listed below must be satisfactorily demonstrated for the task to be assessed as satisfactory.  \* For graded units, the task must be satisfactorily completed before marks will be allocated. |

***Notes for the teacher***

*List in the Required Evidence column below all aspects of the task that are required to be demonstrated by the student for satisfactory completion of the task.*

*Name: Syed Asim Razvi*

*Student ID: 103219618*

*Date: 11th December 2020*

*Time: 12:00*

| **Marking Guide** | | | | |
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| **Required Evidence** | | **Satisfactory** | **Not Submitted** | **Unsatisfactory** |
| **1** | Test Task |  |  |  |
| **2** | Exceptions Task |  |  |  |
| **3** | Read Task |  |  |  |
| **4** | Update Task |  |  |  |
| **5** | Create Task |  |  |  |
| **6** | Q&A |  |  |  |

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| **4. Q&A** | | | | |
| **Required Evidence** | | | **Satisfactory** | **Not Submitted** | **Unsatisfactory** | |
| **1** | | What security issues might need to be addressed in accessing a database from an API? |  |  |  | |
|  | | API is a software intermediary that allows applications to connect and communicate with each other. It allows sharing of data from different applications but are vulnerable so there are some practices that are needed to be secure. Below are some of the practices industry leaders follow:  Principle of least privilege: Users should be granted only minimum and necessary access to get their work done and not grant admin access to every user  Removing information which is not meant to be shared: API’s contain confidential data that has to hidden or removed. Industries has to adopt some sort of tools into their processes to check any exposures.  Rate Limiting: It is a good idea to implement a threshold to which the requests will be rejected after certain requests. This can help in preventing DoS (Denial of Service) attacks |  |  |  | |
| **2** | | What sort of testing can be done to ensure that systems hosted on the internet are secure? |  |  |  | |
|  | | Security testing is a type of testing that helps in identifying any underlying threats, risks, vulnerabilities in the software or a web application. This will prevent attacks from hackers etc. There are mainly 7 types of security testing as Open-Source Security Testing methodology manual.   1. Vulnerability Scanning: This scans a system to check for any known vulnerability signatures. 2. Security Scanning: This scan identifies any network and system weaknesses and also provides any solutions for eliminating the risks. 3. Penetration Testing: It involves simulating an attack from a hacker. This is used to analyse a system to check for any potential issues. 4. Risk Assessment: This helps in analysing security risks and classify them into Low, Medium and High categories thereby providing measures to reduce and eliminate risks 5. Security Auditing: Internal inspection to look for flaws in the code. 6. Ethical Hacking: It includes deliberately hacking and penetrating the systems to expose and patch security flaws. 7. Posture Assessment: This is used to show overall security of the organisation by combining Ethical Hacking, Risk Assessment and Security Scanning. |  |  |  | |
| **3** | | Aside from unit testing, what other forms of software testing are there? |  |  |  | |
|  | | There are different types of functional and non-functional testing, some of them are explained below:  Acceptance Testing: This is performed by client to check whether the flow of the system is as per the business requirements. Client will only accept the software if all the functional aspects of the software work as it is intended to. This is usually done in the last phase before going into production.  Back-End Testing: In this testing, GUI is not involved and developers connect directly to the database and verify the data by running some test queries. This helps in identifying data loss, data corruption etc and are these issues are very important to be fixed before system goes into live environment.  Security Testing: This testing is done to check how secure is the application from any internal or external threats. This is done by a special team of testers that specialises Authorisation and Authentication processes. |  |  |  | |
| **4** | | List some concerns around data security that any organisation holding data needs to be aware of |  |  |  | |
|  | | Increasing use and storage of data puts privacy at the top of the list of concerns for any organisation of any scale. Below are some of the data privacy concerns.  Embedding Data Privacy: Many organisations have data privacy hooked with their IT security plan but not the overall business. We have to make sure to choose proper tools to support ever evolving privacy policies.  Proliferating Devices: Many employees bring their own devices to work and when that happens, we end up having more data and that at times becomes difficult to manage. Organisations must be able to manage data privacy from any source, different environments and applications. Must have proper data governance procedures in place.  Increasing Maintenance Costs: Keeping systems secure in an organisation is expensive but it is important with this day and age where we need to invest properly in security. Automating processes will help in reducing risk of human errors, improves governance and control, and will eventually lower costs.  Access Control will be difficult: Data breaches and loss are usually due to poorly managed data in an organisation. Employees and users need to be educated on privacy and security. Effective and strong governance processes are much needed in the organisations.  Visibility into all the data: Organisation needs to be aware to the sensitivity and location of the data in order to better manage and keep the information private from unintended access. |  |  |  | |

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| **Feedback to Student** | | | | |
| Click or tap here to enter text. | | | | |
| **Task Result** |  | **Satisfactory** |  | **Unsatisfactory** |

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|  | **Name** | **Signature** | **Date** |
| **Assessor** |  |  |  |