You must complete all sections of this worksheet as part of your final assessment submission.

**Task 1 – Undertaking Industry Certification (85 marks)**

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| **Insert a copy of the results received upon completion of the relevant industry certification (as agreed upon with your tutor).** |
| **Preparing for and sitting an industry certification can teach you several valuable lessons that are highly applicable to your career as a software developer. Here are some key takeaways:**  **- 1. Structured Learning and Discipline**  **- Lesson: Preparing for a certification often requires following a structured study plan and maintaining discipline.**  **- Application: Apply this structured approach to learning new programming languages, frameworks, or tools. Set clear goals and timelines for your learning process.**  **- 2. Time Management**  **- Lesson: Balancing study time with other responsibilities teaches effective time management.**  **- Application: Use these time management skills to juggle multiple projects, meet deadlines, and allocate time for continuous learning and development.**  **- 3. Problem-Solving Skills**  **- Lesson: Certification exams often include complex problems that require critical thinking and problem-solving.**  **- Application: Enhance your debugging and problem-solving skills in software development by practicing with real-world scenarios and coding challenges.**  **- 4. Attention to Detail**  **- Lesson: Success in certification exams often depends on paying close attention to details.**  **- Application: Apply this attention to detail when writing and reviewing code to ensure high-quality, bug-free software.**  **- 5. Stress Management**  **- Lesson: Sitting for an exam can be stressful, and learning to manage this stress is crucial.**  **- Application: Use stress management techniques to stay calm and focused during tight deadlines or challenging projects.**  **- 6. Continuous Improvement**  **- Lesson: Preparing for a certification often involves identifying and improving on weak areas.**  **- Application: Regularly review your work, seek feedback, and continuously improve your coding practices and knowledge base.**  **- 7. Networking and Collaboration**  **- Lesson: Certification courses and study groups can provide opportunities to network and collaborate with peers.**  **- Application: Leverage these networking skills to collaborate effectively with team members, participate in developer communities, and stay updated with industry trends.**  **- By applying these lessons, you can enhance your skills, productivity, and overall effectiveness as a software developer.** |

**Task 2 – Reflection and Lessons Learned from Certification (5 marks)**

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| **Compose a brief review of your experience preparing for and sitting the industry certification examination.** | | |
| **Lesson learned** | **Impact on exam preparation** | **How this lesson will be applied in the future** |
| How to Balance Responsibilies (Time Management) | My preparation for the exam coincided with various other tasks and assignments that required completion. Therefore, it was important that I was able to manage my time in order to ensure that all my other tasks and assignments were completed to a high standard whilst also maintaining a continuous study schedule for the industry cert. It impacted the way in which I approached my exam preparation in that I had to design and adhere to a study schedule in order to not only achieve a sufficient amount of research for the exam but also meet the deadlines for my other tasks and assignments. | I can apply this lesson to any future projects that I have to complete. Understanding how to properly manage my time is essential knowledge to have in an ICT environment, most notably when completing projects. Managing each task to complete or each goal to reach at each stage of the project development process in an efficient and timely manner is pertinent to ensuring that the project is completed on time and so that any issues can be quickly resolved. |
| How to identify and improve my skills (Continuous Development) | My preparation for the exam involved looking over and attempting past exam questions and then analysing all the possible answers to determine why some were incorrect and others correct. Therefore, I was able to identify any areas in which I was weak and thus be then able to work on these areas to improve my skills. It impacted the way in which I prepared for my exam in that I decided to focus on questions that dealt with topics I was not as well versed in than others which meant that I was able to increase my knowledge base. | I can apply this lesson to any future projects or work that I have to complete. Understanding how to review my work at regular intervals throughout the project development process and then seeking and receiving feedback from stakeholders and Project Managers at each development milestone is an essential skill to have in an ICT oriented environment as it will strengthen any weaknesses I may have, which will in turn enrich and impact any further projects I work on. Strengthening any weaknesses I have will serve to cultivate my professional development which will have a positive impact on my career as a Software Developer. |
| How to effectively analyse and notice certain details (Attention to Detail) | My preparation for the exam centred on analysing past exam questions, some of which involved determining which of the code snippets in the answers will function correctly. Therefore, it was essential that I was able notice certain details about each code snippet as even the most minute of details meant the difference between a correct and incorrect result. It impacted the way in which I prepared for the exam in that I was carefully analysing every detail of each answer for any and all differences in order to determine the correct answer. | I can apply this lesson to any future projects or work that I will complete. Understanding how to effectively notice and pay attention to every detail of my work be it code or documentation to accompany a project is an important skill to have in an ICT oriented environment as it will ensure that any work I produce will be high quality and bug-free. Delivering high quality, bug-free software and documentation will enrich my professional development and career as a Software Developer. |

**Task 3 – Applying Your Skills in the Workplace (10 marks)**

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| **Outline three coding best practices you would implement as part of an overall enterprise software development strategy.** | |
| **Coding best practice** | **Explanation and relevance in an enterprise context** |
| Consistent Coding Standards/Conventions | Having and using consistent coding standards and conventions is an essential coding best practice to implement as part of an overall enterprise software development strategy. Coding standards and conventions ensure that any code produced is readable, reusable in other programs, and any errors can easily be identified when it is being debugged by adhering to naming conventions, using functions to group similar functionality, and implementing error handling by using try/catch blocks. By establishing coding standards and conventions as part of an overall software development strategy, the overall quality of the output from the ICT team will increase, as well as inter team communication and teamworking skills. It would also mean team members can develop their analysis and decision-making skills, analysing any errors caught by a try/catch block, checking all variables and functions, and making decisions on how to best resolve these errors. I was able to develop these same skills when preparing for my exam as when doing past exam questions, I had to analyse every possible answer and decide which one was the correct one based off my analysis. This is an essential skill to have in an ICT environment as not only will it aid in solving problems and errors, but also useful when making important decisions about code and programs. |
| Follow Data/Code Security Guidelines | Having and using Data/Code Security guidelines is an important coding best practice to implement as part of an overall enterprise software development strategy. Data/Code Security guidelines ensure that any personal data being accessed and handled by any programs is protected and secure from any hacking attempts and data breaches by validating and sanitising any user input to prevent any SQL injection attacks, using parameterised queries instead of imbedding user input directly into the query string, and following certain procedures if any data breaches should occur. By adhering to Data/Code Security guidelines as part of an overall software development strategy, the integrity of any personal data is protected and the ICT team is more vigilant when writing code. It would also mean team members can develop their ability to pay attention to detail, validating whether any code they have written is secure and making any necessary changes if a vulnerability is detected. I was able to develop these same skills when preparing for my exam as when attempting past questions, it was important that I paid attention to every detail of every possible answer as some answers, particularly the ones containing code snippets could be correct or incorrect by a single comma or space, therefore I had to be able to identify these minute differences to succeed. This is an essential skill to have in an ICT environment as not only will it be useful in resolving issues and detecting vulnerabilities in programs but also aid in developing high quality code and programs. |
| Documentation Standards | Having and using documentation standards is an imperative coding best practice to implement as part of an overall enterprise software development strategy. Documentation standards establish a uniform standard for all documentation pertaining to coding projects by defining templates for every possible document that needs to be produced, outlining testing procedures to follow when writing test documentation, and specifying certain structures for certain document needs. By establishing and following document standards as part of an overall software development strategy, the ICT team will be able to produce high quality, comprehensible documents to accompany any projects they develop. It would also provide an opportunity for ICT team members to develop their communication skills, following templates and procedures to compose clear, understandable documentation. I was also able to develop the same skills when preparing for my exam as when doing past exam questions I had to be able to describe plainly and comprehensibly why some answers where correct and why others were incorrect in order to be able to understand the theory behind it the reasoning. This is an essential skill to have in an ICT environment as it not only will it be indispensable when writing up accompanying documentation for projects, but also when completing projects as a team, in order to ensure that the project is completed according to schedule and to a high standard. |

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| **Outline how the skills acquired throughout the instruction of this module will assist you in your future role as software developer and career as a whole.** | |
| **Skill acquired (list at least 2)** | **How it will benefit your future role and career** |
| Communication | Communication is an essential skill to have in an ICT environment. It is important when collaborating on development projects with others, to be able to express thoughts and relay any issues to the wider team, in order to ensure that the project schedule is followed, and each goal and deadline is achieved. By effectively communicating any issues and by also ensuring the project stakeholders are kept up to date and are able to suggest changes, the final product will be of a high quality and finished on time to the stakeholder’s requirements. Communication can also refer to writing the documentation that accompanies development projects. It is important when writing clear, concise and easy to understandable Software Specification documentation or testing documents, so that others, who may not have necessarily be familiar with the project, to comprehend. Therefore, improving on this skill when preparing for the exam will hugely benefit my role and career as it will allow me to work better within a team on projects and write plain, understandable documentation. |
| Analysis and Decision Making | Analysing a situation and making a decision based on this analysis is an important skill to have in an ICT environment. It is integral when working on development projects, to be able to analyse either code or problems that occur and, performing any additional research if necessary, make an informed decision based on these results, in order to ensure that the project is completed according to schedule and the project plan. By adequately analysing, not only issues and code, but also suggested implementation solutions to for projects, conducting research, and making fully informed decisions based on this analysis and research, it ensures that the project will be high quality and completed on time, as well as to the stakeholder’s specifications. Therefore, improving on this skill when preparing for the exam will greatly benefit my role and career as it will allow me to perform more intricate analysis on code and any issues that need solving and to make informed decisions based on the result. |
| Time Management |  |
| Problem Solving |  |