Assessment Task - Written

Student Name	Kyle Kent	**Student Number**	465510139
Unit Code/s & Name/s	ICTPRG503 Debug and monitor applications		
Assessment Type	Written		
Assessment Name	Debugging Assignment	**Assessment Task No.**	AT1
Assessment Due Date		**Date submitted**	
Assessor Name			

Student Declaration: I declare that this assessment is my own work. Any ideas and comments made by other people have been acknowledged as references. I understand that if this statement is found to be false, it will be regarded as misconduct and will be subject to disciplinary action as outlined in the TAFE Queensland Student Rules. I understand that by emailing or submitting this assessment electronically, I agree to this Declaration in lieu of a written signature.

Student Signature	K Kent	**Date**	20/09/2018

PRIVACY DISCLAIMER: TAFE Queensland is collecting your personal information for assessment purposes. The information will only be accessed by authorised employees of TAFE Queensland. Some of this information may be given to the Australian Skills Quality Authority (ASQA) or its successor and/or TAFE Queensland for audit and/or reporting purposes. Your information will not be given to any other person or agency unless you have given us written permission or we are required by law.

Instructions to Student	**Learning Support** Additional support is available to help you achieve your learning goals. Speak to your teacher or a Learning Skills Centre team member if you feel that you may benefit from some extra support. The Institute provides extra support through the Disability Support Unit and the Learning Skills Centre. RPL (Recognition of Prior Learning) is available for this unit. Speak to your teacher/assessor to check if you qualify for RPL. **Conditions of Assessment** You will need to complete the learning and undertake all assessments satisfactorily to be deemed competent. You are responsible for complying with all assessment item instructions; submission and collection requirements; undertaking assessment tasks honestly and retaining a copy of all assessment items. You must submit assessment items by the **due date**, unless an extension has been granted by your teacher. Failure to submit assessment items by the due date will result in a "did not submit" being recorded and depending on your circumstances, you may be granted one final resubmission. To be judged competent in this assessment item the student is required to demonstrate competence in all indicators shown in the marking guide. **The Classroom as a Simulated Work Environment** • Students must be aware and take responsibility for the problems of working in a shared IT environment. Problems such as noise levels, production flow, interruptions and time variances are common to workplaces. In the simulated environment provided in the classroom these problems can take the form of: • Other students who continually ask questions or talk aloud while thinking • Fire drills, projector not working, printers running out of paper or toner cartridge • Miscalculating how much work you can do in one day, missing classes and so on. Some things are unavoidable and you must devise strategies to overcome them, for example, we cannot stop students from asking questions or entering at exiting the class. Other things are unpredictable (e.g. fire drills). You need to be aware and plan and organise your work allowing some extra time for unavoidable and unpredicted events.

	Assessment Criteria: To achieve a satisfactory result, your assessor will be looking for your ability to demonstrate key skills/tasks/knowledge to an acceptable industry standard. Refer to the marking criteria document for a detailed list of items. **Number of Attempts:** You will receive up to two (2) attempts at this assessment task. Should your 1st attempt be unsatisfactory (U), your teacher will provide feedback and discuss the relevant sections / questions with you and will arrange a due date for the submission of your 2nd attempt. If your 2nd submission is unsatisfactory (U), or you fail to submit a 2nd attempt, you will receive an overall unsatisfactory result for this assessment task. Only one re-assessment attempt may be granted for each assessment task, with the exception of Apprentices or Trainees who are permitted an additional supplementary assessment. **For more information, refer to the Student Rules.**
Submission details	Submit your assessment to the allocated dropbox in **Connect** or to the allocated network folder. Your teacher will provide all the details for the submission system or network. Your assignment must be saved with your surname_student number_unit/cluster_AssessmentNumber. For example: **surname_1234567890_ICTPRG503_1** For re-submissions, an "R" must be added to the file name. For example: **surname_1234567890_ ICTPRG503_1_R** The Marking Criteria Sheet must be signed and submitted with your work.
Instructions for the Assessor	To be judged competent in this assessment item the student is required to demonstrate competence in all indicators shown in the marking guide. Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the programming and software development industry, and include access to: • Sufficient privileges to use performance monitoring tools on client and server system • Specific debugging tools and licenses, depending on the particular platform

	Note: A project specification document needs to be presented to or needs to be made available for the students to proceed with their debugging and monitoring.
Note to Student	An overview of all Assessment Tasks relevant to this unit is located in the Unit Study Guide.

Assessment 1: System Debugging and Monitoring

In this assessment, you are required to project manage a formal debugging and monitoring process on a software development project you have completed or are currently completing within your course.

You are required to show clear evidence of due process – appropriate planning, identification of logging, debugging, and profiling tools and explanation, appropriate communication and liaising with relevant stakeholders, completion of the debugging and monitoring of the system, reporting to your project manager on updates required and appropriate closure of the debugging and monitoring process.

Your tasks:

1. Create and send an email to your Project Manager to obtain program specifications and review the document in preparation for the debugging and monitoring of the application.
2. Based on the scenario above and your interpretation of the program specifications, prepare a report to your Project Manager outlining the following: (*available to your chosen programming language or integrated development environment (IDE))*
   - Lists of logging frameworks and a description of each
   - Lists of debugging tools and a description of each
   - Lists of profiling tools and description of each
3. Choose and use one of the logging frameworks you have listed in Task 2 and create a custom event log for your software development project.
4. Analyse the event log and identify the potential solutions to the captured error or bug and include this in your report under the section “Event Logs Analysis”.
5. Choose and use one the debugging tools you have listed in Task 2 and include in your report the screenshots and steps of using these tools under the section “Debugging Tools in Action”.
6. In your software development project, include the following code for debugging: Print, Assert, and Stop and provide the code snippet in your report under the section “Debugging Tools in Action”.
7. Choose and use one of the profiling tools you have listed in Task 2 and include in your report the screenshot of using this tool under the section “Profiling”. *(In relation to your application look to verify the parts of the system that consume the most resources, such as random access memory (RAM), central processing unit (CPU) and time.)*
8. Analyse the profiling results and identify the potential solutions to the identified issues and include this in your report under the section “Profiling”.
9. Apply the identified solutions in Task 8 to your application to improve its performance and include the code snippets in your report under the section “Profiling”.
10. Present your report to your Project Manager for sign-off.