SAIT Southern Alberta Institute of Technology

CPRG 307
Lab 2: Problem Solving and Testing

Student: _____

Mark: ___ / 2 (*one mark for each deliverable*)

Lab Objectives
Here is what you will be able to do when you complete each objective:

- Create application development documentation.
- Show the problem path and solution in documentation.
- Create a test plan for a software solution.

Lab Instructions

To complete this lab, follow the steps below. This lab is due at the end of the lab class indicated by your instructor.

Steps:

☐ 1. ATTEND the lecture on the material that will be performed in the lab exercise.

☐ 2. COMPLETE the out-of-class learning activities as indicated by your instructor.

☐ 3. COMPLETE the tasks identified in the lab document, making sure to submit solutions to the appropriate forum and thread in the D2L discussion board.

☐ 4. COMPLETE the post lab tasks identified in the lab document after the lab has been completed.

Deliverables

☐ 1. SUBMIT the completed flowchart by the date and time indicated by your instructor to the appropriate forum and topic in the D2L discussion board. The flowchart should be submitted as an attachment to your discussion post. This attachment should be a Visio file, PDF if using a tool other than Visio, or, if completed by hand on paper, simply scan or take a picture and attach this file to the discussion post.

☐ 2. SUBMIT the completed test plan by the date and time indicated by your instructor to the appropriate forum and topic in the D2L discussion board. The test plan should be submitted as an attachment to your discussion post. This attachment should be a Microsoft Word document or a PDF if using a tool other than Word. The contents of this document should be neatly organized.

Prelab Tasks

☐ 1. There is **no** prelab for this lab.

Lab Tasks

☐ 1. CREATE a flowchart for the following problem:

The Astra Talent Agency (ATA) application needs to calculate the total fee for each performance. The total fee is calculated by multiplying the number of hours a performance takes by the hourly fee for that event type. Each event type will have its own hourly fee. Unfortunately, these hourly fees are not stored in the database but there is a chart (below) that maps out the hourly fee for each event type. The total number of hours a performance takes will not be stored in the system; it must be calculated. Input coming into the system would be the start time of the performance and the end time (remember that dates include the day as well as the time) and the event type. Based on this input information, you should be able to calculate / determine the number of hours and the hourly fee. In addition, a $100 additional fee is added to any performance that starts on a Monday __or__ *Friday.*

Type of Event	Hourly Fee
Children's Party	$335.00
Concert	$1,000.00
Divorce Party	$170.00
Wedding	$300.00
All other event types	$100.00

☐ 2. LIST out each component, based on your flowchart, which would require a test. Assuming dynamic black-box testing, for each component identified, identify what value(s) you would use for each test. Consider both test-to-pass and test-to-fail.

Post Lab Tasks

☐ 1. COMPARE your posted solutions to those posted by your instructor. If you are unsure why there are differences between the solutions, make sure to talk to your instructor.