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**FOUNDATION ASSESSMENT II MATERIAL RELEASE**

THEORY QUESTIONS

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| **SECTION** | **MARK** |
| **Theory Questions** | 31 |
| **Concept Questions** | 19 |
| **Python Challenge** | 25 |
| **SQL Challenge** | 25 |
| **TOTAL** | **100** |

**Important notes:**

* This document shares the first section of the Foundation Assessment II which is composed of 9 Theory Questions
* It is worth just under a third of your assessment mark
* You have 24 hours before the assessment to prepare.
* If any plagiarism is found in how you choose to answer a question you will receive a 0 and the instance will be recorded. Consequences will occur if this is a repeated offence. You can remind yourself of the plagiarism policy [here](https://drive.google.com/file/d/1k9UaGOR7hx54QRZ8jvp2jtC4P-8_Rs4F/view?usp=sharing).

**Section 1: Theory Questions [31 marks]**

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| * 1. **What does SDLC stand for?**   **SDLC stands for Software Development Life Cycle** which is a framework for creating software, that involves phases of software development from requirement analysis and planning all the way to deployment. | **1 mark** |

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| * 1. **What exception is thrown when you divide a number by 0?**   In Python it raises **“ZeroDivisionError”** exception. | **1 mark** |

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| **1.3 What is the git command that moves code from the local repository**  **to the remote repository?**  To move code from local repository to remote repository we would use “**git push”** command. | **1 mark** |

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| * 1. **What does NULL represent in a database?**   **NULL value** in a database is usually used when there is no value for the column, it is missing or unknown, it is not the same as 0 or empty string. | **1 mark** |

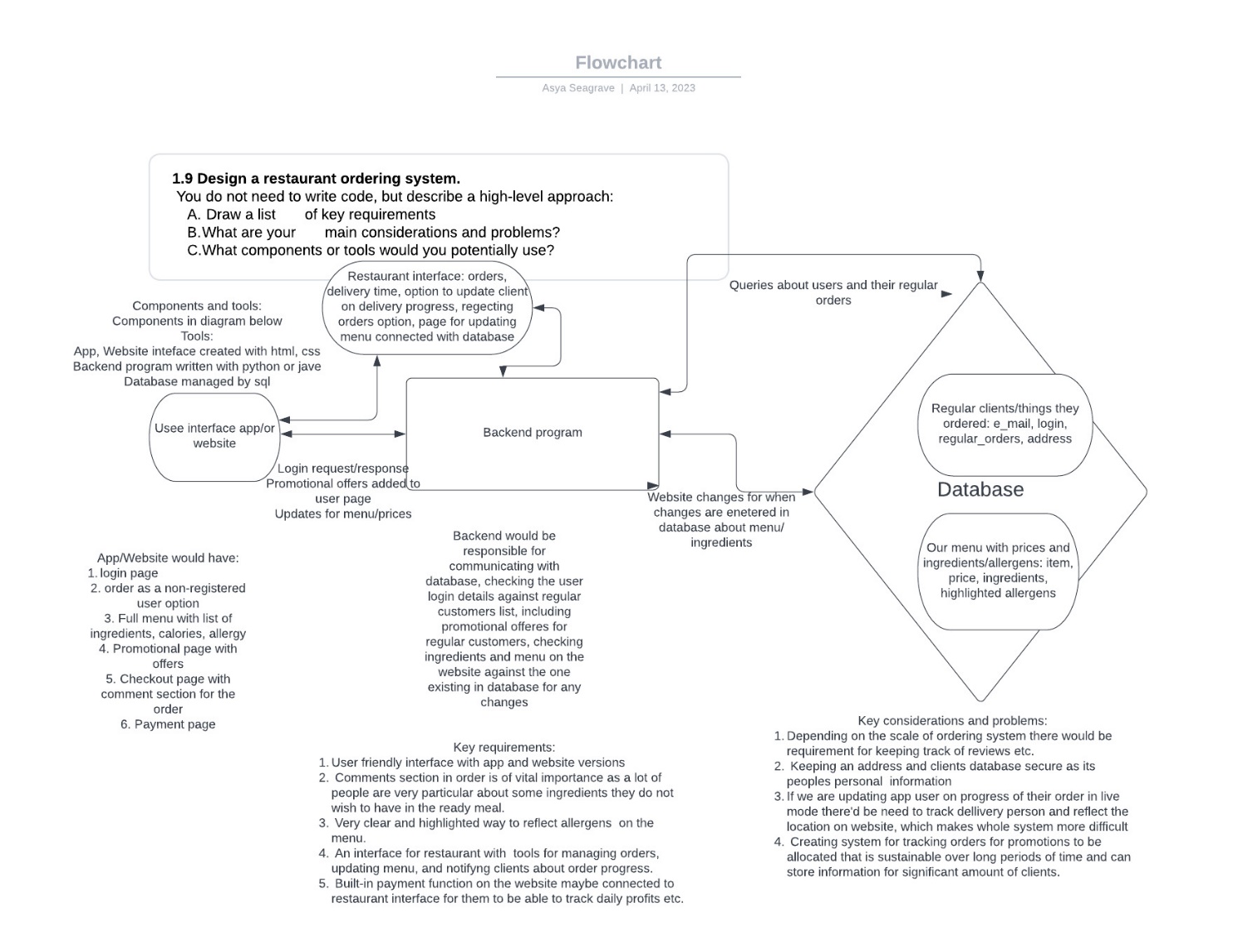
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| * 1. **Name 2 responsibilities of the Scrum Master**   **Facilitating communication –** Scrum Master is a connecting link between team, product owner and stakeholders, he ensures efficient exchange of information.  **Keeping team organised and ensuring project completion within allocated timeframe,** this is where scrum ceremonies come in useful, and Scrum Master is responsible for arranging these meetings. | **2 marks** |

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| * 1. **Name 2 debugging methods, and when you would use them.**   **Print and check –** we use it throughout code, one of the simpler methods to make sure code is doing the right thing is to get ongoing values printed out and make sure we are accomplishing something with the code we have written up to this point.  **Exception handling –** is used to prevent code from being stalled by exceptional occurrences, a person who writes code needs to handle such exceptions within their code to ensure it is running smoothly, try and except block comes in handy in such situations. | **4 marks** |

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| **1.7 Looking at the following code, describe a case where this function**  **would throw an error when called.** Describe this case and talk about  what exception handling you’ll need.  def can\_pay(price, cash\_given):  if cash\_given >= price:  return True  else:  return False  I could see the gap in this function lying in handling situations where cash given and price weren’t numbers, for example we get a string expression for numerical value, the comparison operator won’t work correctly.  I tried it in code and here’s how I handled such situation, we would need to restrict cash\_given and price values with either int or float, put main function part within try block and handling exception error within except block.  price = 10 cash\_given = "sixty seven" def can\_pay(price, cash\_given):  try:  if int(cash\_given) >= int(price):  return True  else:  return False  except ValueError:  print("Error: wrong input")  print(can\_pay(price, cash\_given))  The output in this case would be:  Error: wrong input | **5 marks** |

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| **1.8 What is git branching?** Explain how it is used in Git.  Git branching is a part of Git version control system, creating a branch allows you to diverge from main line of development and experiment with changes in code, add a feature or fix a bug without affecting main branch. Branching is especially useful on large projects where multiple changes in code could be required to be made parallel to each other and sometimes multiple people are writing code, so branches in this case would allow code to be checked, tested and approved before merging to the main branch. | **6 marks** |

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| **1.9 Design a restaurant ordering system.**  You do not need to write code, but describe a high-level approach:   * 1. Draw a list of key requirements   2. What are your main considerations and problems?   3. What components or tools would you potentially use? | **10 marks** |

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