|  |  |  |
| --- | --- | --- |
| Student Name | Student No. | Mark |

**210CT PADS**

**Assignment**

**Marking Scheme**

|  |  |  |
| --- | --- | --- |
| **Topics** | **Max.** | **Score** |
| *Part 1 – Design Document (15%)* | | |
| Design Document   * Data Structure (5%) * Main and Game class (10%) | 15% |  |
| *Part 2* | | |
| *Data Structure (25%)* | | |
| Correct choose of data structure (i.e., Linked List or Circular List) | 3% |  |
| Correct implementation of Base Class (Linked List / Circular List) | 3% |  |
| Using private inheritance or composition | 1% |  |
| Implementation of related functions | 12% |  |
| Print/Output related functions for the list | 6% |  |
| *Game Class (30%)* | | |
| Data Member: 2D array for the board (2%) and score (1%) | 3% |  |
| Constructor with default values (or separated default constructor) | 2% |  |
| init() function – set initial values and generate 2 random filled grips | 2% |  |
| 4 slide functions – up, down, left, right   * Should calculate the correct score * Should have the correct pattern after move | 14% |  |
| random fill function – random fill 1 grip if ‘0’, ‘A’ or ‘B’ | 3% |  |
| display() function – prints the game board and the score | 4% |  |
| gameover( ) function | 2% |  |
| *Main Program (15%)* | | |
| Compile and work | 5% |  |
| Create Game and initial data (the two random tile filled) | 3% |  |
| While loop and switch (or if) case | 2% |  |
| Print board and score before every move | 2% |  |
| Ask player for input | 1% |  |
| Check for extra move or game end (with message) | 2% |  |
| *Others (15%)* | | |
| Error Checking (mainly on the main program) | 5% |  |
| Testing Evidence   * 1st full game with moves (3%) * 2nd full game (1%) * Error input shown (1%) | 5% |  |
| Coding Standard   * Student info in each class/header (1%) * Class name and purpose (1%) * Function purpose with parameter description (2%) * Indentation (1%) | 5% |  |