Department of Computer Science

University of the Western Cape

COS 101

Practical Test 1

Student Name & Surname: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Total [50]

**Question 1**

Develop a Java to calculate the LCM (Lowest Common Multiple) of two positive integers. For example, the LCM of 12 and 9 is 36. See algorithm below:

## CalculatingTheLCMofTwoNumbers

|  |  |  |  |
| --- | --- | --- | --- |
| Enter the numbers; No1, No2 | | | |
| Initialize multipliers m1 and m2;  m1 🡨 1, ✓ m2 🡨 1✓ | | | |
| Reset flag Found;  Found 🡨 false✓ | | | |
|  | \T m1\*No1 = m2 \*No2? ✓ /F | | |
|  | Set flag Found;  Found 🡨 true✓  Store the LCM;  LCM 🡨 m1\*No1 | \T m1\*No1< m2 \*No2? ✓ /F | |
|  | Increment m1; ✓  m1 🡨 m1 + 1 | Increment m2; ✓  m2🡨 m2 + 1 |
|  |  |
|  | Repeat until Found✓ | | |
| Display the LCM of No1 and No2 is ; LCM✓ | | | |

**Question 2**