**ITRW222**

**TEST 10 Recursion**

**27 OKT 2017**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student No\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| Bereken die faktoriaal van *n*. Dit word wiskundig bereken as n\*(n-1)\*(n-2)\*….\*1.  Die faktoriaal van 1 =1 =(1)  Die faktoriaal van 2 =2= (2\*1)  Die faktoriaal van 3 = 6 = (3\*2\*1)  Jy moet die faktoriaal van *n* rekursief (sonder lusse) bereken:  Voltooi die kode: (5) | Compute the factorial of *n*. It is computed mathematically as n\*(n-1)\*(n-2)\*….\*1.  The factorial van 1 =1= (1)  The factorial van 2 =2 =(2\*1)  The factorial van 3 = 6 = (3\*2\*1)  You have to compute the factorial of *n* recursively (without loops) :  Complete the code: (5) |
| public int factorial(int n) {  // Base case: if n is 1, we can return the answer directly  if (n == 1) return 1; **√√**  return n \* factorial(n-1); **√√√**  } | |

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**TEST 11 Trees**

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**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student No\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- |
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| 5.1 Gee die volgorde waarmee die volgende algoritmes deur die boom sal beweeg: (9) | *5.1 Give the order in which the following algorithms will traverse the tree: (9)* |
| *Post-Order: ACBGE JMVSPH* **√√√**  *In-order: ABCEG HJMPSV* **√√√**  *Breadth-first: HEPBG MSACJV***√√√** | |