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| Chapitre 2  Récursivité |

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| Compréhension du cours |  |

Qu’est-ce qu’une fonction récursive ?

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On considère la fonction multiplier définie ci-dessous. Encadrer quelle(s) partie(s) de la fonction correspond au(x) cas de base et quelle(s) partie(s) de la fonction correspond au(x) cas récursifs.

def multiplier(a, b):

if a == 0:

return 0

elif a == 1:

return b

else:

return b + multiplier(a-1, b)

On réalise l’appel multiplier(4, 8). Dessiner la pile d’appels de la fonction multiplier.

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Que se passe-t-il si on effectue l’appel multiplier(-4, -8) ?

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Que se passe-t-il si on effectue l’appel multiplier(5000, 2) ?

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| Algorithme d’Euclide | |  | | --- | | **CAPYTALE**  **b075-42299** | |

**Question 1**

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|  | **Valeur de a** | **Valeur de b** | **Valeur de r** |
| **1er appel** |  |  |  |
| **2e appel** |  |  |  |
| **3e appel** |  |  |  |

**Question 3**

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| Décomposition d’un entier positif en somme d’au plus quatre quatre carrés | |  | | --- | | **CAPYTALE**  **5242-51657** | |

**Question 4**

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| **Valeur de n** | **Décomposition de n en somme d’au plus quatre carrés** |
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| Exponentiation rapide | |  | | --- | | **CAPYTALE**  **70ed-42353** | |

**Question 2**

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| Suite de Fibonacci | |  | | --- | | **CAPYTALE**  **44c7-52635** | |

**Question 1**

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**Question 3**

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| Palindromes | |  | | --- | | **CAPYTALE**  **776c-40730** | |

**Question 1**

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**Question 2**

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**Question 1**

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**Question 2**

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**Question 5**

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**Question 6**

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