**TDE - Segundo Semestre – 2022**

Lucas Azevedo Dias

As questões precisam ser respondidas utilizando o MS Word Equation Editor ou o Latex. Em qualquer dos casos, o passo a passo de pelo menos três itens de cada questão deve estar explicitado no documento de entrega.

1. Converta os seguintes números, em base 10, para binário utilizado a precisão simples (*float*) da norma IEEE 754.
   1. 1.0

Resposta:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| S | Expoente | | | | | | | | Mantissa | | | | | | | | | | | | | | | | | | | | | | |

* 1. -0.1

Resposta:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 |
| S | Expoente | | | | | | | | Mantissa | | | | | | | | | | | | | | | | | | | | | | |

* 1. 2016.0

Resposta:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| S | Expoente | | | | | | | | Mantissa | | | | | | | | | | | | | | | | | | | | | | |

* 1. 0.00390625

Resposta:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| S | Expoente | | | | | | | | Mantissa | | | | | | | | | | | | | | | | | | | | | | |

* 1. -3125.3125
  2. 0.33
  3. -0.67
  4. 3.14

1. Converta os seguintes números, em hexadecimal, para decimal, sabendo que estes números hexadecimais representam os binários equivalentes de uma representação baseada na norma IEEE 754.
   1. 40000000
   2. BF800000
   3. 3D800000
   4. C1804000
   5. 42C81000
   6. 3F99999A
   7. 42F6E666
   8. C25948B4