Sistemas Informáticos (Computer Systems)

Unit 02. Activities 01 - Solutions

Authors: Sergi García, Alfredo Oltra

Updated September 2022

Unit 02. Activities 01 - Solutions

1. Exercise 01

a) $1001_{(2}$ b) $110010_{(2}$ c) $1010_{(2}$ d) $100101,101_{(2}$ e) $1011_{(2}$

a) 9   *b) 50*   *c) 10*   *d) 37,625*   *e) 11*

2. Exercise 02

a) $8_{(10}$ b) $512_{(10}$ c) $20,625_{(10}$ d) $255_{(10}$ e) $3560,75_{(10}$

a) 1000   *b) 1000000000*   *c) 10100,101   d) 11111111   e) 110111101000,11*

3. Exercise 03

a) $100100101_{(2}$ b) $1000000000_{(2}$ c) $1001001_{(2}$ d) $11111_{(2}$

a) 125   *b) 200*   *c) 49*   *d) 1F*

4. Exercise 04

a) $5A43_{(16}$ b) $BEA_{(16}$ c) $23A_{(16}$ d) $100_{(16}$
a) 101101001000011 b) 101111101010   c) 1000111010   d) 100000000

e) $F410_{(16}$
e) 1111010000010000

5. Exercise 05

a) $100101_{(2}$ b) $11101_{(2}$ c) $110011_{(2}$ d) $100_{(2}$ e) $11010101_{(2}$

a) 45$_{(8}$ *b) 35$_{(8}$*   *c) 63$_{(8}$*   *d) 4$_{(8}$*   *e) 325$_{(8}$*

6. Exercise 06

a) $521_{(8}$ b) $1234_{(8}$ c) $100_{(8}$d) $7543_{(8}$ e) $111_{(8}$

a) 101010001   *b) 1010011100*   *c) 1000000   d) 111101100011   e) 1001001*

7. Exercise 07

a) $F2A3_{(16}$ b) $4227_{(16}$ c) $4227_{(8}$ d) $AAFF_{(16}$

a) 62115   *b) 16935*   *c) 2199d) 43775*

8. EXERCISE 08

a) $16_{(10}$ b) $427_{(10}$ c) $255_{(10}$ d) $534_{(10}$

a) 10   *b) 1AB*   *c) FF*   *d) 216*

9. EXERCISE 09

a) $16_{(10}$ b) $427_{(10}$ c) $255_{(10}$ d) $534_{(10}$

a) 20   *b) 653*   *c) 377*   *d) 1026*

10. EXERCISE 10

1001100

11. EXERCISE 11

100010

12. EXERCISE 12

1010110

13. EXERCISE 13

10110100

14. EXERCISE 14

a) 10111010   b) 11000101   c) 11000110   d) 01000110

15. EXERCISE 15

42

16. EXERCISE 16

a) 01000110   b) 1100010   c) 00000111   d) 11111000

17. EXERCISE 17

6

18. EXERCISE 18

4096

19. Exercise 19

You can find information about this question in:

- http://www.unicode.org/standard/translations/spanish.html
- http://informaticamejoras.blogspot.com.es/2009/11/unicode.html

20. Exercise 20

DEC: 83 105 115 116 101 109 97 115 32 100 101 32 114 101 112 114 101 115 101 110 116 97 99 105 162 110

HEX: 53 69 73 74 65 6D 61 73 20 64 65 20 72 65 70 72 65 73 65 6E 74 61 63 69 A2 6E

OCT: 123 151 163 164 145 155 141 163 40 144 145 40 162 145 160 162 145 163 145 156 164 141 143 151 242 156

21. Exercise 21

-19.75

22. Exercise 22

a) 34000000 MB   b) 0,0000012 EB   c) 12500 Mb → kB   d) 453,6 GB/Week

23. Exercise 23

105: 1101001   1101001 |101

5: 101   101   10101 = 21

                            00110

                             101

                            00101

                             101

                             000

24. Exercise 24, 25 and 26

Try to do them by yourself and share it in forum :)