1. The numbers X = -124 and Y = -47 are stored in the 8-bit supplementary code. Determine the result (hexadecimal) of the sum of the numbers X and Y and decide whether the result is valid in the given code.
   - A) the result in the given code is not valid
   - B) the sum is valid and is equal to the value $(B7)_{16}$
   - C) the sum is valid and is equal to the value $(AB)_{16}$
   - D) the sum is valid and is equal to $(55)_{16}$
   - E) none of the previous answers A, B, C, D are correct

2. The result of calling the recursive function Recursion (7) is the value:
   - A) -4
   - B) 3
   - C) 4
   - D) -3
   - E) none of the previous answers A, B, C, D are correct

Recursion (b)	
b<10	
+	-
Return b – Recursion (b+2)	Return (5)

3. The result of the following algorithm can be most concisely described as:

I := 1	
while B[I]>0	
if B[I] mod 2 = 1	
then	else
C[I] := 1	C[I] := 0
write C[I]	
I: = I+1	

   - A) creating an array C of the same size as array B, where each element of array C is one, if the element of array B with the same index is an odd number, otherwise it is equal to zero

B) creating an array C containing as many elements equal to one as the number of positive odd numbers in the array B

C) converting all positive numbers in field B to a binary system

D) creating an array C containing as many elements equal to one as the number of positive numbers in the array B

E) none of the previous answers A, B, C, D are correct

4. The Do - While cycle is characterized by:
    A) commands within a cycle are executed at most once
    B) it can contain only one command
    C) statements within the cycle are executed if the condition is not met
    D) it must contain at least one "While-Do" cycle inside and an end condition
    E) none of the previous answers A, B, C, D are correct

5. Condition "((5> 2) || (b> a))":
    A) the result cannot be determined without knowing the values of a and b
    B) the result cannot be determined without knowing the value of b
    C) the result is true
    D) the result is false
    E) none of the previous answers A, B, C, D are correct

6. Let's have the following statements:
    "Mates is sad or in a bad mood."
    "Mates is not sad."
    It follows logically from the above statements that
    A) "Mates isn't in a bad mood."
    B) "Mates is sad and in a bad mood."
    C) "If Mates isn't sad, he's not in a bad mood."
    D) "Mates is in a bad mood."
    E) none of the previous answers A, B, C, D are correct

7. The following applies to a static data structure (variable):
    A) the contents and size (memory occupied) of the variable must not change during program execution
    B) used exclusively when creating static web pages
    C) the memory location assigned to this variable does not change during program execution
    D) the content of the variable must not change during program execution, its size (occupied memory) may change
    E) none of the previous answers A, B, C, D are correct

8. eDirectory is:
    A) a cross-platform directory service developed by IBM
    B) cross-platform directory service from Google
    C) cross-platform directory service from Microsoft
    D) a multiplatform directory service developed by Novell
    E) none of the previous answers A, B, C, D are correct

9. The following applies to hierarchical layered architecture:
    A) the lowest layer (0) is hardware
    B) the lowest layer (0) is the user interface
    C) the lowest layer (0) is the command line
    D) the lowest layer (0) is the command interpreter
    E) none of the previous answers A, B, C, D are correct

10. The LIFO principle is characterized by:
    A) it is not possible to determine which element is selected from the list first
    B) the term LIFO does not exist in programming, only FIFO
    C) the first inserted element is selected first
    D) the last inserted element is selected as the last
    E) none of the previous answers A, B, C, D are correct

11. What is HTML
    A) semantic markup language for websites
    B) procedural programming language for websites
    C) a non-procedural programming language for websites
    D) higher scripting language for websites
    E) none of the previous answers A, B, C, D are correct

12. Which protocol is primarily used for communication between client and server in a WWW environment?
    A) Transmission Control Protocol / Internet Protocol
    B) HyperText Transfer Protocol
    C) File Transfer Protocol
    D) Simple Mail Transfer Protocol
    E) none of the previous answers A, B, C, D are correct

13. What is the quality of a JPEG image?
    A) is compressed without loss
    B) is compressed at a loss
    C) may contain one color transparent
    D) the maximum color depth is 8 bits
    E) none of the previous answers A, B, C, D are correct

14. RGB color model:
    A) is used in media that reflect light
    B) is used in printers
    C) is used in media that emit light
    D) it is no longer used
    E) none of the previous answers A, B, C, D are correct

15. To be accessible to visually impaired users, a website must meet:
    A) each non-text element carrying information must have a textual alternative

B) must not contain any images
C) must not be CSS formatted
D) must be based on JavaScript
E) none of the previous answers A, B, C, D are correct

16. RAID is:
    A) multiple mirroring of display devices
    B) hard disk failure data protection method
    C) interface for connecting input devices
    D) technology for mobile devices
    E) none of the previous answers A, B, C, D are correct

17. What is ISO / OSI?
    A) national standardization organization for information and communication technologies
    B) hard disk mirroring technology combining mechanical disks and solid state drives
    C) an add-on for interactive websites that allows to upload data in the background of a web browser
    D) reference model of communication solution in computer networks using layered model
    E) none of the previous answers A, B, C, D are correct

18. What is SaaS?
    A) the lowest layer of cloud solutions - e.g., HW virtualization and computing power
    B) higher layer cloud solution - especially for end users
    C) plugin for web browsers enabling higher dynamics on the client side
    D) a markup language
    E) none of the previous answers A, B, C, D are correct

19. What is Flex (flex box) in CSS?
    A) one-dimensional presentation of objects on a web page
    B) two-dimensional presentation of objects on a web page
    C) the main content of the website
    D) technical information about the website
    E) none of the previous answers A, B, C, D are correct

20. How many colors does an 8-bit image contain?
    A) 16
    B) 256
    C) 4096
    D) 65536
    E) none of the previous answers A, B, C, D are correct