**DATA REPRESENTATION (II)**

**I. Answer the following questions:**

1. What does computer performance refer to?
2. Is computer performance the same thing as the computer’s processor?
3. What kind of numbers do computers use?
4. What does the digit 1 represent? What does the digit 0 represent?
5. Try to define the bit.
6. What would you compare a bit with? Why?
7. What is a byte?
8. What is commonly used for measuring the data transfer rate?
9. What measurements are used for describing rapid data transfer?
10. What is commonly used for measuring data storage?
11. What measurements are used for describing the amount of data managed by a computer?
12. What are the numeral systems used in computer operations?
13. What are the four possible combinations when adding two binary digits?
14. What is the base of the hexadecimal system?
15. What symbols are used by the hexadecimal system?
16. How many bits represent a nibble?
17. What is the hexadecimal numeral system used for?
18. What is the base of the octal numeral system?
19. What digits are used by the octal numeral system?
20. What is floating-point notation?
21. Define FPU.
22. What is a character code?
23. Give examples of character codes and say something about each.

**II. Say whether the following statements are true (T) or false (F):**

1. Binary numbers are easy to work with.
2. A word has 14 bits.
3. ASCII is one of the most commonly used numeral systems in computer operations.
4. A nibble represents 16 combinations of On/Off.
5. A GB stands for 1 000 000 000 bits.
6. In the binary addition, the least significant bit is at the left-hand side whereas the most significant one is at the right-hand side.
7. A byte gives 257 combinations of On/Off.
8. A Mbps stands for 1 million bits per second.
9. There is a convention to use a proceeding b for binary numbers, for example 010b.
10. A word is 2 bytes.

**III. Match the following words with the correct definitions:**

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|  |  |
| --- | --- |
| 1). **digit 8** | 1’). the proper positioning or state of adjustment of parts (as of a mechanical or electronic device) in relation to each other; |
| 2). **decimal 16** | 2’). abbreviation for mathematics; |
| 3). **binary 12** | 3’). the bottom of something considered as its support; |
| 4). **switch 19** | 4’). continually drifting or changing position; |
| 5). **storage 21** | 5’). adapted to existing conditions; being in the habit or custom; |
| 6). **baseline 9** | 6’). present or ready for immediate use; |
| 7). **average 14** | 7’). to assume an orderly linear arrangement; |
| 8). **measurement 20** | 8’). any of the Arabic numerals 1 to 9; |
| 9). **to implement 22** | 9’). a usually initial set of critical observations or data used for comparison or a control; |
| 10). **to owe 18** | 10’). the detailed plan or arrangement of an electric circuit; |
| 11). **alignment 1** | 11’). to express the specific distinguishing quality of; |
| 12). **column 15** | 12’). something made of or based on two things or parts; |
| 13). **accustomed 5** | 13’). to be, go, or come ahead or in front of; |
| 14). **to line up 7** | 14’). a single value that summarizes or represents the general significance of a set of unequal values; |
| 15). **preceding 13** | 15’). a vertical arrangement of items printed or written on a page; |
| 16). **base 3** | 16’). based on the number 10; |
| 17). **to differentiate 11** | 17’). something likened to shorthand especially in providing rapid or abbreviated communication or representation; |
| 18). **shorthand 17** | 18’). to be under obligation to pay or repay in return for something received; |
| 19). **floating 4** | 19’). a device for making, breaking, or changing the connections in an electrical circuit; |
| 20). **circuitry 10** | 20’). the length, height etc. of something; |
| 21). **math 2** | 21’). when you keep or put something in a special place while it is not being used; |
| 22). **available 6** | 22’). to take action or make changes that you have officially decided should happen. |

subsequent – **c)** ensuing

radix - **b)** base of a system number

straightforward – **d)** direct

obviously – **c)** plainly

nibble – **c)** 4bits

split – **d)** divide

**to spit**

**a)** to expectorate; **b)** to expend; **c)** to expel; **d)** to expedite;

**VII. Make sentences of your own with the following:**

*to represent by digits;*

*to consist of;*

*to result in;*

*on average;*

*to correspond roughly to something;*

*to perform a calculation;*

*to be accustomed with something;*