# Techno India Batanagar <br> Computer Science and Engineering 

## Model Questions

## Multiple Choice Questions

1) Which electronic components are used in First Generation Computers?
1. Integrated Circuits
2. Vacuum Tubes
3. VLSI Microprocessor
4. ULSI Microprocessor
2) Which electronic components are used in Second Generation Computers?
1. Transistors
2. Integrated Circuits
3. Vacuum Tubes
4. VLSI Microprocessor
5. ULSI Microprocessor
3) Which electronic components are used in Third Generation Computers?
1. Transistors
2. Integrated Circuits
3. Vacuum Tubes
4. VLSI Microprocessor
5. ULSI Microprocessor
4) Which electronic components are used in Fourth Generation Computers?
1. Transistors
2. Integrated Circuits
3. Vacuum Tubes
4. VLSI Microprocessor
5. ULSI Microprocessor
5) Which electronic components are used in Fifth Generation Computers?
1. Transistors
2. Integrated Circuits
3. Vacuum Tubes
4. VLSI Microprocessor
5. ULSI Microprocessor
6) ENIAC Computer belongs to $\qquad$ .
1. First Generation Computers
2. Second Generation Computers
3. Third Generation Computers
4. Fourth Generation Computers
7) VLSI Stands for $\qquad$ .
1. Very Large Storage Integration
2. Very Large Storage Integrator
3. Very Large Scale Integration
4. Very Large Scale Integrator
8) ULSI Stands for $\qquad$ _.
1. Ultra Large Storage Integration
2. Ultra Large Scale Integration
3. Ultra Large Storage Integrator
4. Ultra Large Scale Integrator
9) $\qquad$ is used as a programming language in
first generation computers?
1. FORTRAN
2. COBOL
3. BASIC
4. Machine Language
10) FORTRAN stands for $\qquad$ .
1. Translation
2. Format Transformation
3. Fork Transformation
4. Formula Translation
11) Which electronic components are used in First Generation Computers?
1. Transistors
2. Integrated Circuits
3. Vacuum Tubes
4. VLSI Microprocessor
5. ULSI Microprocessor
12) Which electronic components are used in Second Generation Computers?
1. Transistors
2. Integrated Circuits
3. Vacuum Tubes
4. VLSI Microprocessor
5. ULSI Microprocessor
13) Which electronic components are used in Third Generation Computers?
1. Transistors
2. Integrated Circuits
3. Vacuum Tubes
4. VLSI Microprocessor
5. ULSI Microprocessor
14) Which electronic components are used in Fourth Generation Computers?
1. Transistors
2. Integrated Circuits
3. Vacuum Tubes
4. VLSI Microprocessor
5. ULSI Microprocessor
15) Which electronic components are used in Fifth Generation Computers?
1. Transistors
2. Integrated Circuits
3. Vacuum Tubes
4. VLSI Microprocessor
5. ULSI Microprocessor
16) EBCDIC stands for
1. Extended Binary Coded Decimal Interchange Code
2. Extended Bit Code Decimal Interchange Code
3. Extended Bit Case Decimal Interchange Code
4. Extended Binary Case Decimal Interchange Code
17) $B C D$ is
1. Binary Coded Decimal
2. Bit Coded Decimal
3. Binary Coded Digit
4. Bit Coded Digit
18) ASCII stands for
1. American Stable Code for International Interchange
2. American Standard Case for Institutional Interchange
3. American Standard Code for Information nterchange
4. American Standard Code for Interchange Information
19) Which of the following is first generation of computer
1. EDSAC
2. IBM-1401
3. CDC-1604
4. ICL-2900
20) Chief component of first generation computer was
1. Transistors
2. Vacuum Tubes and Valves
3. Integrated Circuits
4. None of above
21) FORTRAN is
1. File Translation
2. Format Translation
3. Formula Translation
4. Floppy Translation
22) EEPROM stand for
1. Electrically Erasable Programmable Read Only Memory
2. Easily Erasable Programmable Read Only Memory
3. Electronic Erasable Programmable Read

Only Memory
4. None of the above
23) Second Generation computers were developed during

1. 1949 to 1955
2. 1956 to 1965
3. 1965 to 1970
4. 1970 to 1990
24) The computer size was very large in
1. First Generation
2. Second Generation
3. Third Generation
4. Fourth Generation
25) Microprocessors as switching devices are for which generation computers
1. First Generation
2. Second Generation
3. Third Generation
4. Fourth Generation
26) Special purpose computers are better in performance because
1. They have morememory
2. A set of instructions is built into the machine
3. They are equipped with faster processor
4. None of above
27) UNIVAC is
1. Universal Automatic Computer
2. Universal Array Computer
3. Unique Automatic Computer
4. Unvalued Automatic Computer
28) CD-ROM stands for
1. Compactable Read Only Memory
2. Compact Data Read Only Memory
3. Compactable Disk Read Only Memory
4. Compact Disk Read Only Memory
29) ALU is
1. Arithmetic Logic Unit
2. Array Logic Unit
3. Application Logic Unit
4. None of above
30) VGA is
1. Video Graphics Array
2. Visual Graphics Array
3. Volatile Graphics Array
4. Video Graphics Adapter
31) IBM 1401 is
1. First Generation Computer
2. Second Generation Computer
3. Third Generation Computer
4. Fourth Generation Computer
32) MSI stands for
1. Medium Scale Integrated Circuits
2. Medium System Integrated Circuits
3. Medium Scale Intelligent Circuit
4. Medium System Intelligent Circuit
33) The capacity of 3.5 inch floppy disk is
1. 1.40 MB
2. 1.44 GB
3. 1.40 GB
4. 1.44 MB
34) The first computer introduced in Nepal was
1. IBM 1400
2. IBM 1401
3. IBM 1402
4. IBM1402
35) WAN stands for
1. Wap Area Network
2. Wide Area Network
3. Wide Array Net
4. Wireless Area Network
36) MICR stands for
1. Magnetic Ink Character Reader
2. Magnetic Ink Code Reader
3. Magnetic Ink Cases Reader 4. None
37) Step by step instructions written to solve any problem is called

$$
\begin{array}{ll}
\text { 1. } & \text { Pseudocode } \\
\text { 2. } & \text { Algorithm } \\
\text { 3. } & \text { Assembler } \\
\text { 4. } & \text { class }
\end{array}
$$

38) Diagramatic or symbolic representation of an algorithm is called
1. Data-Flow diagram
2. E-R diagram
3. Flow Chart
4.None
39)Procedural programming method is followed in
4. C
5. Cobol
6. Cobra
7. All
40) The C language consist of $\qquad$ number of keywords.
1. 32
2. 40
3. 24
4. 56
41) Which of the following is a keyword used for a storage class?
1. Printf
2. external
3. auto
4. scanf
42) The prototype of the function in the header file is
1. Stdio.h
2. stdlib.h
3. conio.h
4. io.h
43) Preprocessor Directives are used for -
1. Macro Expansion
2. File Inclusion
3. Conditional Compilation
4. All of these
44) Which operator has the lowest priority ?
1. ++
2. \%
3.     + 
4. ||
45) The type cast operator is
1. (type)
2. cast()
3. //
4.""
46) File manipulation functions in $C$ are available in which header file ?
1. streams.h
2. stdio.h
3. stdlib.h
4. files.h
47) Which pair of functions below are used for single xharacter I/O ?
```
                1. getchar() and putchar()
```

2. $\operatorname{scanf}()$ and printf()
3. input() and output()
4. None of these
48) Which function is used to read character as you type
?
1. getchar()
2. getch()
3. getche()
4. Both (2) and (3)
49) What is the output of this program ?
void main()
int $a=b=c=10 ; a=b=c=50$;
printf("\n \%d \%d \%d", a, b, c);

## \}

1. 505050
2. Compile Time Error
3. 101010
4. Three Garbage Value
50) Which format specifier is used to print the values of
2. $i=34$
3. $i=22$
4. Error double type variable
5. \%If
6. \%Id
7. \%lu
8. \%f
51) What will be the output of the following program? Void main ()
\{ double $x=28$; int $r ; r=x \% 5$;
printf (" $\mathrm{n} \mathrm{r}=\% \mathrm{~d}$ ", r );
\}
1. $r=3$
2. Run time Error
3. Compile time Error
4. None of the Above
52) What the following function call mean? strcpy(s1, s2 );
1. copies s1 string into s2
2. copies s2 string into s1
3. copies both s1 and s2
4. None of these
53) What will be the output of the following program?

Void main( )
\{
Int $x[]=\{10,20,30,40,50\}$;
Print f(" $\backslash n$ \%d \%d \%d \%d ", x
[4] , $3[x], x[2], 1[x], x[0])$;
$\}$

1. Error
2. 1020304050
3. 5040302010
4. None of these
54) Which of the following is not s keyword of ' $C$ ' ?

$$
\begin{aligned}
& \text { 1. auto } \\
& \text { 2. register } \\
& \text { 3. int } \\
& \text { 4. function }
\end{aligned}
$$

55) What will be the out put ?
```
void main ()
    \{
        char a [] = "INFO" ;
                \(a++;\)
            printf (" \(\backslash n\) \%s", a);
    \}
    1. Error
    2. INFO
    3. NFO
    4. None of these
```

56) Which of the following operator has right to left associativity?
1. \&\&
2. //
3. \%
4. sizeof
output?
57) What wiil be the output ?
```
Void main ()
    {
            int i;
            i=0\times10+ 010+10;
            Printf ("\nx=%x", i);
        }
    1. x=34
```

58) Explicit type conversion is known as
1. conversion
2. disjunction
3. separation
4. casting
59) What will be the output ?

$$
\text { \#define SQUARE }(X) X^{*} X
$$

void main ( )
\{
printf (" $\backslash n$ Square $=\% d^{\prime}$,
SQUARE(10+2) );
\}

1. Square $=144$
2. Square $=32$
3. Square $=122$
4. Square $=12$
60) By default a function returns a value of type
1. int
2. char
3. void
4. None of these
61) What will be the value of $x$ after executing the program ?
```
void main ()
    {
        int x;
        x = printf("I See, Sea in C");
        printf("\n x= % d" , x);
    }
    1. }x=1
    2. }x=
    3. Garbage value
    4. Error
```

62) What is sizeof In ' $C$ ' ?
1. Operator
2. Reserve Word
3. Both (A) and (B)
4. Function
63) Study the following C program

Void main ()
\{
Int $\mathrm{a}=0$;
For (; a; ;
a++;
\}
What will be the value of the variable a, on the execution of the above program

1. I
2. 0
3. -1
4. None of these
64) Which is not keyword in ' $C$ ' ?
1. typedef
2. const
3. near
4. complex
65) What will be the output of the following program code ?
```
void main ()
    {
        char a[]= "Hello World";
        char *p;
```

$p=a ;$ printf(" $\mathrm{n} \% \mathrm{~d} \% \mathrm{~d} \% \mathrm{~d} \% \mathrm{~d}$ ", sizeof(a)
sizeof(p), strlen (a), strlen(p) );
\}

1. 11111010
2. 10101010
3. 12121111
4. 1221111
66) The meaning of arrow operator in $a->b$

$$
\begin{aligned}
& \text { 1. }\left({ }^{*} a\right) \cdot b \\
& \text { 2. a. }(* b) \\
& \text { 3. a.b } \\
& \text { 4. None of these }
\end{aligned}
$$

67) What will be the output of the following program code?

Void main ()
\{
Printf (" $\backslash \mathrm{n} A B C \backslash b \backslash b \backslash b I n f o$ World");
\}

1. Info world
2. ABC Info world
3. strxfrm
4. strcut
68) Which is valid string function ?
1. strpbrk
2. strlen
3. strxfrm
4. strcut
69) What will be the size of following structure? Struct sample \{ Static int $x$; int $y, z ;\}$;
1. 6 bytes
2. 2 bytes
3.     + bytes
4. None of these
70) Which of the following function not convert floating point number to string ?
1. fcvt
2. gcvt
3. ecvt
4. hcvt
71) What will be the output?
```
void main ()
\{ printf("\%d", 'B' < 'A' );
\}
```

1. Error
2. 1
3. 0
4. None of these
72) Which one of the following is conditional directive ?
1. \#nifdefn
2. \#ifdefn
3. \# ifdefn
4. \#ifdef
73) What will be the output ?
void main ()
\{
int x ;
unsigned y ; printf(" $\backslash n \% d$ \%d", sizeof(x),
sizeof(y) );
\}
1. 22
2. 24
3. 44
4. None of these
74) What does $x$ stand for in : int ${ }^{* *} x$;
1. $x$ is a pointer to pointer
2. $x$ is not pointer
3. $x$ is long
4. None of these
75) What will be the output ?
void main ()
\{
printf("\n \%d \%d", 10\&20, 10/ 20);
\}
1. 00
2. 1010
3. 030
4. 2020
76) Which of the following is used as a string termination character ?
1. 0
2. $\backslash 0$
3. $/ 0$
4. None of these
77) What will be the output ?
void main ()
\{
int $\mathrm{i}=48$;
printf("\n \%c \%d", i,i );
\}
1. Error
2. 4848
3. 148
4. 048
78) A static variable by default gets initialized to
1. 0
2. blank space
3. 1
4. garbage value
79) Find out on which line no . you will get an error ?

Line 1: void main ()
Line 2: \{
Line 3: print("\n Hello World")
Line 4: \}

1. Line 1
2. Line 2
3. Line 3
4. Line 4
80) What will be the output of the following program ? void main ()
\{
int $x=10, y=20$;
printf ("\n \%d", x,y);
\}
1. 10
2. 20
3. 1020
4. None of these
81) Which function reallocates memory ?
1. realloc
2. alloc
3. malloc
4. None of these
82) What will be the size of following union declaration?

Union Test \{ Int x; Char y; Float z; \} ;

[^0]83) Which of the following is not a relational operator?
1.!
2. !=
3. $>=$
4. <
84) Identify the invalid pointer arithmetic

1. Addition of float value to a pointer
2. Comparision of pointers that do
not point to the element of the same array
3. Subtracting an integer from a
pointer
4. Assigning the value 0 to a pointer
variable
85)which of the following is an operator in ' $C$ '?
1.,
5. \$
6. @
7. None of these
86) A declaration float $a, b$; occupies $\qquad$ of memory ?
1. 1 bytes
2. 4bytes
3. 8byte
4. 16 bytes
87) What is the output of the following program ?

> void main()
\{
int $x=40 ; y=30 ; z=80$;
if( $x<y>z$ )
printf("\n Hello world");
else printf("\nGood by");

1. Hello world
2. Good by
3. Compile time error
4. None of these
88) What is the output of the following code?

Void main()
\{
Int c=0, d=5,e=10,a;
$A=c>1 ? d>1| | e>1 ? 100: 200: 300 ;$
Printf("a=\%d", a);
\}

1. $a=300$
2. $a=100$
3. $a=200$
4. None of these
89) Which among the following is a unconditional control structure?
1. do-while
2. if -else
3. goto
4. for
90) Which of the following language is predecessor to $C$ Programming Language?

> 1. A
> 2. B
> 3. BCPL
> 4. C++
91) C programming language was developed by

1. Dennis Ritchie
2. Ken Thompson
3. Bill Gates
4. Peter Norton
92) C was developed in the year $\qquad$
1. 1970
2. 1972
3. 1976
4. 1980
93) C is a ___ language
1. High Level
2. Low Level
3. Middle Level
4. Machine Level
94) C language is available for which of the following Operating Systems?
1. DOS
2. Windows
3. Unix
4. All of these
95) Which of the following symbol is used to denote a pre-processor statement?
1.!
2. \#
3. ~
4. ;
96) Which of the following is a Scalar Data type
1. Float
2. Union
3. Array
4. Pointer
97) Which of the following are tokens in $C$ ?
1. Keywords
2. Variables
3. Constants
4. All of the above
98) What is the valid range of numbers for int type of data?
1. 0 to 256
2. -32768 to +32767
3. -65536 to +65536
4. No specific range
99) Which symbol is used as a statement terminator in C?

$$
\begin{aligned}
& \text { 1.! } \\
& \text { 2. \# } \\
& \text { 3.~ } \\
& \text { 4. ; }
\end{aligned}
$$

100) Which escape character can be used to begin a new line in C?
1. \a
2. $\backslash b$
3. $\backslash \mathrm{m}$
4. $\backslash n$
101) Which escape character can be used to beep from speaker in C?

> 1. \a
> 2. $\backslash b$
> 3. $\backslash m$
> 4. $\backslash n$
102) Character constants should be enclosed between
$\qquad$

1. Single quotes
2. Double quotes
3. Both $a$ and $b$
4. None of these
103) String constants should be enclosed between $\qquad$
[^1]
## 4.None of these

104) Which of the following is invalid?

$$
\begin{aligned}
& \text { 1." } \\
& \text { 2. "" } \\
& \text { 3. 'a' } \\
& \text { 4. 'abc' }
\end{aligned}
$$

105) The maximum length of a variable in $C$ is $\qquad$

> 1.8
> 2.16
> 3.32
4. 64
106) What will be the maximum size of a float variable?

1. 1 byte
2. 2 bytes
3. 4 bytes
4. 8 bytes
107) What will be the maximum size of a double variable?
1. 1 byte
2. 4 bytes
3. 8 bytes
4. 16 bytes
108) A declaration float $a, b$; occupies $\qquad$ of memory
1.1 byte
2. 4 bytes
3.8 bytes
4.16 bytes
109) The size of a String variable is
1. 1 byte
2. 8 bytes
3. 16 bytes
4. None
110) Which of the following is an example of compounded assignment statement?

$$
\begin{aligned}
& \text { 1. } a=5 \\
& \text { 2. } a+=5 \\
& \text { 3. } a=b=c \\
& \text { 4. } a=b
\end{aligned}
$$

111) The operator $\& \&$ is an example for $\qquad$ operator
1. Assignment
2. Increment
3. Logical
4. Rational
112) The operator \& is used for

> 1. Bitwise AND
> 2. Bitwise OR
> 3. Logical AND
> 4. Logical OR
113) The operator / can be applied to

1. integer values
2. float values
3. double values
4. All of these
114) The equality operator is represented by
1. :=
2. EQ.
3. =
4. ==
115) Operators have hierarchy. It is used to know which operator
1. is most important
2. is used first
3. is faster
4. operates on large numbers
116) The bitwise AND operator is used for
1. Masking
2. Comparison
3. Division
4. Shifting bits
117) The bitwise OR operator is used to
1. set the desired bits to 1
2. set the desired bits to 0
3. divide numbers
4. multiply numbers
118) Which of the following operator has the highest precedence?

$$
\begin{aligned}
& \text { 1. }{ }^{*} \\
& \text { 2. = } \\
& \text { 3. => } \\
& \text { 4. }+
\end{aligned}
$$

119) The associativity of ! operator is
1. Right to Left
2. Left to Right
3. (a) for Arithmetic and (b) for

Relational
4. (a) for Relational and (b) for

Arithmetic
120) Which operator has the lowest priority?

> 1. ++
> 2. \%
> 3. +
> 4. ||
121) Which operator has the highest priority?

> 1. ++
> 2. \%
> 3. +
> $4 .| |$
122) Operators have precedence. A Precedence determines which operator is

1. faster
2. takes less memory
3. evaluated first
4. takes no arguments
123) Integer Division results in
1. Rounding the fractional part
2. truncating the fractional part
3. Floating value
4.An Error is generated
124). Which of the following is a ternary operator?

$$
\begin{aligned}
& \text { 1. ?: } \\
& \text { 2. * } \\
& \text { 3. sizeof } \\
& \text { 4. ^ }
\end{aligned}
$$

125) What will be the output of the expression $11 \wedge 5$ ?
1. 5
2. 6
3. 14
4. None of these
126) The type cast operator is

$$
\begin{aligned}
& \text { 1. (type) } \\
& \text { 2. cast() } \\
& \text { 3. // } \\
& \text { 4. " }
\end{aligned}
$$

127) Explicit type conversion is known as
1. Casting
2. Conversion
3. Disjunction
4. Separation
128) The operator + in $a+=4$ means

$$
\text { 1. } a=a+4
$$

2. $a+4=a$
3. $a=4$
4. $a=4+4$
129) $p++$ executes faster than $p+1$ because
1. $p$ uses registers
2. $p++$ is a single instruction
3. ++ is faster than +
4. None of these
130) Which of the following statements is true?
1. C Library functions provide I/O
facilities
2. C inherent I/O facilities
3. C doesn't have I/O facilities
4. Both (1) and (3)
131) Header files in C contain
1. Compiler commands
2. Library functions
3. Header information of $C$ programs
4. Operators for files
132) Which pair of functions below are used for single character I/O.
1. Getchar() and putchar()
2. $\operatorname{Scanf}()$ and printf()
3. Input() and output()
4. None of these
133) The printf() function retunes which value when an error occurs?
1. Positive value
2. Zero
3. Negative value
4. None of these
134) Identify the wrong statement
1. putchar(65)
2. putchar('x')
3. putchar("x")
4. putchar('\n')
135) Which of the following is charecter oriented console I/O function?
1. getchar() and putchar()
2. gets() and puts()
3. $\operatorname{scanf}()$ and $\operatorname{printf()}$
4. fgets() and fputs()
136) An Ampersand before the name of a variable denotes
1. Actual Value
2. Variable Name
3. Address
4. Data Type
137) Symbolic constants can be defined using
1. \# define
2. const
3. symbols
4. None of these
138) Null character is represented by
1. In
2. $\backslash 0$
3. $\backslash 0$
4. \e
139) Which header file is essential for using stromp() function?
1. string.h
2. strings.h
3. text.h
4. strcmp.h
140) malloc() function used in dynamic allocation is available in which header file?
1. stdio.h
2. stdlib.h
3. conio.h
4. mem.h
141) File manipulation functions in $C$ are available in which header file?
1. streams.h
2. stdio.h
3. stdlib.h
4. files.h
142) C supports how many basic looping constructs
1. 2
2. 3
3. 4
4. 6
143) A statement differs from expression by terminating with a
1. ;
2. :
3. NULL
4. .
144) What should be the expression return value for a do-while to terminate
1. 1
2. 0
3. -1
4.NULL
145) Which among the following is a unconditional control structure
1. do-while
2. if-else
3. goto
4. for
146) continue statement is used
1. to go to the next iteration in a loop
2. come out of a loop
3. exit and return to the main function
4. restarts iterations from beginning
of loop
147) Which operator in C is called a ternary operator
1. if..then
2. ++
3. ?
4. ()
148) Which of the following header file is required for strcpy() function?
1. string.h
2. strings.h
3. files.h
4. $\operatorname{strcpy}()$
149) The meaning of conversion character for data input is

|  | 1. Data item is a long integer <br> 2. Data item is an unsigned decimal |
| :--- | :--- |
| integer | 3. Data item is a short integer <br> 4. None of the above |

150) The conversion characters for data input means that the data item is
1. An unsigned decimal integer
2. A short integer
3. A hexadecimal integer
4. A string followed by white space
151) An expression contains relational, assign. ment and arithmetic operators. If Parenthesis are not present, the order will be
1. Assignment, arithmetic, relational
2. Relational, arithmetic, assignment
3. Assignment, relational, arithmetic
4. Arithmetic, relational, assignment
152) Which of the following is a key word is used for a storage class

> 1. printf
> 2. external
> 3. auto
> 4.scanf
153) In the C language 'a' represents

1. a digit
2. an integer
3. a character
4. a word
154) The number of the relational operators in the $C$ language is

> 1. Four
> 2. Six
> 3. Three
> 4. One
155) A compound statement is a group of statements included between a pair of

1. double quote
2. curly braces
3. parenthesis
4. a pair of /'s
156) A Link is
1. a compiler
2. an active debugger
3. a C interpreter
4. a analyzing tool in C
157) The continue command cannot be used with
1. for
2. switch
3. do
4. while
158) In C, a Union is
1. memory location
2. memory store
3. memory screen
4. None of these
159) When the main function is called, it is called with the arguments
1. argc
2. argv
3. None of these
4. both a \& b
160) A multidimensional array can be expressed in terms of
1. array of pointers rather than as
pointers to a group of contiguous array
2. array without the group of
contiguous array
3. data type arrays
4. None of these
161) C allows arrays of greater than two dimensions, who will determined this
1. programmer
2. compiler
3. parameter
4. None of these
162) A pointer to a pointer in a form of
1. multiple indirection
2. a chain of pointers
3. both a and b
4. None of these
163) Pointers are of
1. integer data type
2. character data type
3. unsigned integer data types
4. None of these
164) Maximum number of elements in the array declaration int a[5][8] is
1. 28
2. 32
3. 35
4. 40
165) If the size of the array is less than the number of initializers then,
1. Extra values are being ignored
2. Generates an error message
3. Size of Array is increased
4. Size is neglected when values
are given
166) Array subscripts in C always start at
1. -1
2. 1
3. 0
4. Value provided by user
167) A Structure
1. can be read as a single entity
2. cannot be read as a single entity
3. can be displayed as a single entity
4. has member variables that cannot be read individually

[^0]:    1. 7 bytes
    2. 4bytes
    3. 1byte
[^1]:    1. Single quotes
    2. Double quotes
    3. Both $a$ and $b$
