

1. Set of characters which a language can understand.
2. Two byte code for all the characters. E.g. A-Z=65-90
3. Smallest identifiable unit of a statement. Keywords(main), identifiers(any variable name), Literals(5), operators(+), punctuators(;
4. const, goto
5. true false null.
6. not a keyword, start with an alphabet, no special characters...
7. \$ \_.
8. char('A'), Integer(5), Real(5.0), String("A"), Boolean(true), Null(null)
9. Fractional, exponential
10. octal-hexadecimal.
11. Mantissa & exponent.
12. Codes for some non-graphic/special characters. E.g. '\t'. Yes(Active inside string)
13. Chart the data types in Java in order. Give an example for each.

char	byte	short	int	long	float	double	boolean
'A'	(byte)5	(short)5	5	(long)5, 5L	(Float)3.14 3.14F	3.14 5D	true

14. Chart:
 

char	2	0 to 65535	byte	1	-128 to 127
short	2	-32768 to 32767	int	4	-231 to 231-1
long	8	-263 to 263-1	float	4	±3.4E+38 (Precision:7/9wide)
double	8	±1.7e+308 (Precision:16/18wide)	boolean	1	1 bit used.
15. The width of the answer
16. An identifier. initialization- value given with declaration, assignment-after declaration.
17. initialization- usually at top, dynamic initialization- in between the program where the variable is required
18. '\0', 0, 0.0, null, false.
19. Area of the program where a variable can be accessed.
20. Block(in { } inside a function), function, class
21. l-value=memory location/address. r-value=contents of the location.
22. Which store l-value. Called so because l-value is also called a reference or memory address.
23. Precede "final" in declaration.
24. Unary-Binary-Ternary.
25. Can be used with strings as well as numbers.
26. Sum=1020(Concatenation takes place), 30 is the sum(addition takes place first)
27. 6, 22, .6
28. to check even/odd, extract last digit, extract values after the decimal point.
29. a=11 b=50 (evaluate then increase), a=11, b=55, (increase then evaluate)
30. No precedence, evaluated from L->R. Answer: a=12 b=3 c=30
31. Which result in true/false(conditions) – Yes they can be stored in variables – using the "boolean" data type.
32. Because they are not exact – they contain round off errors.
33. relational-match 2 operands, logical- join 2 conditions.
34. &=evaluates all, &&=short circuit.
35. Can be used with conditions as well as numbers.
36. On Binary equivalents of numbers.

37. >>=unsigned, >>>=signed (so unpredictable answers)

38. ^, gives false if both the conditions are true.

39.	C1	C2	&		~(Not)	^(xor)
	0	0	0	0	1	0
	0	1	0	1		1
	1	0	0	1	0	1
	1	1	1	1		0

40. Shorter way of changing the value of a variable +=, -= etc.

41. Precedence(Order of evaluation) and Associativity(Order of evaluation when precedence is same), UARLCA

42. Answers – 10.0 Float applied after 21/2, 10 Precedence, 10 ?: evaluated after arithmetic operators, 99.0 ascii values of 1 & 2 added, 9 Associativity, 100 Type 65('A')+32(Space)+3

43.(i) Type casting – writing a data type before a value/variable in (), (ii) Coercion – implicit type promotion, (iii) Type compatibility. LHS data type >= RHS data type

44. Loss of precision, Loss of value

45.Expression statements Sop(), assignment etc, control flow- if, switch, for, while, do-while, declaration statement 0 in which a variable, function or a class is declared.

46.Conditional, after.

47.Changing of data type, 2 types- implicit(automatic), explicit(achieved by type casting)

48. Fixed(all operands same), Mixed(operands different).

49.Relational

50. math - pow(5,2), sqrt(25), cbrt(27), abs(-5.25), floor(5.2), ceil(21.1), max(8,3), min(5.0,3.0), random(), round(28.5), rint(28.5)). Other(Names to be learnt)- sin, cos, tan, acos, asin, atan, atan2, log, exp, log10.

Output: 25.0 5.0 3.0 5.25 5.0 22.0 8 3.0 0.8957603159013405 29 28.0

Character – isDigit('A')); isLetter('A')); isLetterOrDigit('A')); isLowerCase('A')); isUpperCase('A')); isWhitespace('A')); toLowerCase('A')); toUpperCase('A')); Output – f, t, t, f, t, f, a, A

51. (i) Block /Compound statement – Set of statement in { }, (ii) Null Statement. - ;

52.Single letter code put after a constant E.g. F, L, D: Usefulness: Short alternative for type casting

53.We need to make a class even for smallest of a program.

54.What does <> and [] mean in the syntax of any statement.

55.No, not unless we use “new” operator.

56. Instance variables – Declared inside a class but outside all functions. The are accessible by all the functions.

Class variables – static instance variables – can be accessed without objects and have only 1 copy in memory.

Instance Methods – Non-static functions of a class.

Class Methods – Static functions of a class. They can access class variables only.

57.Allocate space in the memory to an object.

58. No, (only Arithmetic to arithmetic and not to Boolean/string etc)

59. Math.sin(Math.abs(c)+(1.0/2.0)\*Math.sqrt(Math.pow(a,2)+Math.pow(b,1.0/5.0)), Math.floor(a)+Math.max(b,c)/Math.log(c)

60. blank.