Homework Solutions (28th January 2023)

Q1. What is the difference between compiler and interpreter?

Ans1.

Compiler A compiler takes a program as whole and generates intermediate machine codes. This translates the entire source code in a single run. Interpreter The interpreter will translate the program line by line & also it never generates any intermediate machine codes.

Q2. What is ASCII Table?

Ans2.

ASCII table
This table contains letters, numbers, control,
Characters & other symbols. Each character is
assigned a unique 7 bit code.
ASCII Stands for American Standard Code
for Information Interchange.

ASCII TABLE

Decimal	Hex	Char	Decimal	Hex	Char	Decimal	Hex	Char	Decimal	Hex	Char
0	0	[NULL]	32	20	[SPACE]	64	40	@	96	60	*
1	1	[START OF HEADING]	33	21	!	65	41	Α	97	61	a
2	2	[START OF TEXT]	34	22	II .	66	42	В	98	62	b
3	3	[END OF TEXT]	35	23	#	67	43	C	99	63	c
4	4	[END OF TRANSMISSION]	36	24	\$	68	44	D	100	64	d
5	5	[ENQUIRY]	37	25	%	69	45	E	101	65	e
6	6	[ACKNOWLEDGE]	38	26	&	70	46	F	102	66	f
7	7	[BELL]	39	27	1	71	47	G	103	67	g
8	8	[BACKSPACE]	40	28	(72	48	Н	104	68	h
9	9	[HORIZONTAL TAB]	41	29)	73	49	1	105	69	i
10	Α	[LINE FEED]	42	2A	*	74	4A	J	106	6A	j
11	В	[VERTICAL TAB]	43	2B	+	75	4B	K	107	6B	k
12	C	[FORM FEED]	44	2C	,	76	4C	L	108	6C	1
13	D	[CARRIAGE RETURN]	45	2D		77	4D	M	109	6D	m
14	E	[SHIFT OUT]	46	2E		78	4E	N	110	6E	n
15	F	[SHIFT IN]	47	2F	1	79	4F	0	111	6F	0
16	10	[DATA LINK ESCAPE]	48	30	0	80	50	P	112	70	р
17	11	[DEVICE CONTROL 1]	49	31	1	81	51	Q	113	71	q
18	12	[DEVICE CONTROL 2]	50	32	2	82	52	R	114	72	r
19	13	[DEVICE CONTROL 3]	51	33	3	83	53	S	115	73	S
20	14	[DEVICE CONTROL 4]	52	34	4	84	54	T	116	74	t
21	15	[NEGATIVE ACKNOWLEDGE]	53	35	5	85	55	U	117	75	u
22	16	[SYNCHRONOUS IDLE]	54	36	6	86	56	V	118	76	V
23	17	[END OF TRANS. BLOCK]	55	37	7	87	57	W	119	77	w
24	18	[CANCEL]	56	38	8	88	58	X	120	78	x
25	19	[END OF MEDIUM]	57	39	9	89	59	Υ	121	79	У
26	1A	[SUBSTITUTE]	58	3A	:	90	5A	Z	122	7A	z
27	1B	[ESCAPE]	59	3B	;	91	5B	[123	7B	{
28	1C	[FILE SEPARATOR]	60	3C	<	92	5C	\	124	7C	
29	1D	[GROUP SEPARATOR]	61	3D	=	93	5D	1	125	7D	}
30	1E	[RECORD SEPARATOR]	62	3E	>	94	5E	^	126	7E	~
31	1F	[UNIT SEPARATOR]	63	3F	?	95	5F	_	127	7F	[DEL]

Q3. What is the difference between 32-bit and 64-bit CPU?

32 and 64 bit CPU

64 bit CPU is more capable than the 32 bit CPU because it can handle moredata at once. A 64 bit CPU can access over 4 billion times the physical memory of a 32 bit processor.

Q4. Explore various naming conventions of naming a variable.

Variable naming conventions

1) Can contain letters, digit & underscores

2) Names must begin with letter or underscore.

3) Names are case sensitive

4) Names can not have spaces & no special character

other than underscore can be used.

Q5. Explore the associativity and precedence table.

OPERATOR	ТҮРЕ	ASSOCIAVITY		
() []>		left-to-right		
++ +- ! ~ (type) * & sizeof	Unary Operator	right-to-left		
* / %	Arithmetic Operator	left-to-right		
+ -	Arithmetic Operator	left-to-right		
<< >>	Shift Operator	left-to-right		
< <= >>=	Relational Operator	left-to-right		
== !=	Relational Operator	left-to-right		
&	Bitwise AND Operator	left-to-right		
۸	Bitwise EX-OR Operator	left-to-right		
I	Bitwise OR Operator	left-to-right		
&&	Logical AND Operator	left-to-right		
II	Logical OR Operator	left-to-right		
?:	Ternary Conditional Operator	right-to-left		
= += -= *= /= %= &= ^= = <<= >>=	Assignment Operator	right-to-left		
,	Comma	left-to-right		

perators nary / /. + - < , >> , <= , > , > = = , ! = &	As sociativity Right - to - left Left - to - suight
+ - < , >> , < = , > , > = = , ! =	
+ - < , >> , < = , > , > = = , ! =	Left-to-suight
,< = , >, > = = , ! =	Left-to-suight
,< = , >, > = = , ! =	Left-to-suight
= , =	Left-to-suight
	- 5
4	0.80
^	
1	
4&	2 1 1 1 mm = 1 mm
11 .	
	Right to left
	Right to left
ssignment	all to wisht
,	eft to right
	5 rs 1 1 1
5 1 90 * 35 di	fferent and
0 + 20 1 30 1 M	fference the
rana * nave	precedence th
sociativity is from	n left to right
0+20 * 30	Per la San Albert Communication

	Dogs
	This will be solved as 10 + (20 * 30)
_	= 10 + 600
	= 610
€x→	100+200/10 -3 * 10
	First we will solve / & * as they are having higher precedence than + · First / & then * as associativity is from left to
	having higher precedence than + · First / 2
	then * as associativity is from left to
	right.
	100+20-3*10
	100 + 20 - 30
	(100+20) - 30
	120-30 = 90 Ans
	3 33 7 11 28
√o Ł	e - Instead of learning the associativity &
~~	e - Instead of learning the associativity & precedence table, it is better to use
	brackets as brackets will always be
	solved first.
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