

**ASSIGHMENT NO: 01**

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**DEPARTMENT: BS(CS)**

**SUBJECT: MICRO PROCESSOR & ASSEMBALY  
LANGUAGE**

**SEMESTER: 5<sup>th</sup>**

**SUBMITTED TO SIR AMEEN**

①

Q2: Explain the concept of portability as it applied to programming language?

Ans: A language whose source program can be compiled and run on a wide variety of computer system is said to be portable.

Q3: Give the example of an embedded system application.

Ans:

Some example of embedded system application are auto & mobile fuel ignition system, air conditioning control system, security system, flight control system, hand-held computers, modems, printers and other intelligent computer peripherals.

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Q5: why would a high-level

language not be an ideal tool

for writing a program that directly  
access a particular brand  
of printer.

A high level language may not be  
provide for direct hardware access.  
Even if it does, awkward coding  
technique must often be used  
resulting in possible maintainance  
problem.

Q No 4: what is a device driver?

Ans Device driver are programs that  
translate general operating system  
commands into specific reference to  
hardware details that only the  
manufacturer knows.

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Q No 1:

What is the relationship  
between high-level language and  
machine language?

Ans: High level language programs  
must be translated into  
machine language before they  
can be executed. Machine  
language instructions are encoded as  
binary numbers that are meant to be  
used by a machine not read  
or written systems that is closer  
to human language.

Q No 6:

Translate the following C++  
expression to assembly language  
using the example presented earlier  
in this chapter as a guide?

$$x = (y * 4) + 3$$

Ans: Code for the expression

$$x = (y * 4) + 3$$

mov ebx, x ; mov x to EBX

mov ebx, 4 ; mov 4 to EBX



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mov ebx, eax ; EAX = EAX  
add eax, 3 ; add 3 to  
mov x, eax ; move EAX to x.

Q8:

Why was unicode invented?

Ans:

Unicode is a universal computing standard to represent text in most writing systems. It was invented to store most of the world's characters. It is started during 1987.

Q7: In your own words describe the virtual machine concept?

Ans:

Virtual machine concept computers are constructed in layers, so that each layer represented a translation layer from a high-level instruction set to a lower-level instruction set.

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Q10:

What is the hexadecimal representation of the binary number 1100 1111 001 0111?

Ans:  $(CF57)_{16}$  Ans

Q No 11:

What is the binary representation of the hexadecimal number?

Ans: ~~ESB~~ E5B6AED7?

Ans:  $(1110\ 0101\ 1011\ 0110\ 1010\ 1110\ 1101\ 0111)_2$

Q No 15: create a truth table to show all possible input and output for the Boolean function described by

$(A \vee B)$  Ans: create a table

$\neg (X \vee Y)$

$x$	$y$	$x \vee y$	$\neg(x \vee y)$
F	T	T	F
F	T	T	F
T	F	T	F
T	F	T	F

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Q No: (15) (16)

What is the value of the Boolean expression  $(T \wedge F) \vee T$

Ans:

T	F	$T \wedge F$	$(T \wedge F) \vee T$
0	1	0	1
0	1	0	1
1	0	0	0
1	0	0	0

Q No: 14:

What is decimal representation of each of the following unsigned binary integers 1111000?

$$\text{Ans } 1 \times 2^7 + 1 \times 2^6 + 1 \times 2^5 + 1 \times 2^4 + 1 \times 2^3 + 0 + 0 + 0$$

$$\Rightarrow 128 + 64 + 32 + 16 + 8 + 0 + 0 + 0$$

$$\Rightarrow (248)_{10}$$



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What is the sum of the  
Binary integers?

$$00001111 + 00001111 ?$$

$$\begin{array}{r} \phantom{0000} \overset{\textcircled{1}}{0} \overset{\textcircled{1}}{0} \overset{\textcircled{1}}{0} \overset{\textcircled{1}}{0} \\ 00001111 \\ + 00001111 \\ \hline (000011110) \end{array}$$

$$(000011110) \text{ Ans}$$

Q No: 12

What is unsigned decimal  
representation of each of the  
following hexadecimal integers 3A?

Ans:

Ans 58