LUTORIAL 1

SYSTEM SOFTWARE

Q1.> Define the following terms

(a) Compiler

- 1) A compiler is a software that typically takes a high level longhage (Like C++ and Java) code as input and converts the input to a lower language at once.
 - @ It list all the errors if the input code does not follow the rules of its language.

High terd Longuage / Scottb3 Anil Workers

Compiler

Machine 6 Longuage

(source program)

cobject code

(b) Interpreter and more of

- 1) The software by which the conversion of the high level instructions is performed line-by-line to markine level longuage, other than compiler and assembler is known as INTERPRETER!
 - (2) If an error is found on only line, the execution stops till it is corrected.
 - 3 It translates source code into some effecient intermediate representation and immediately executes this rodail

Page No.	02
Date	

(c) Assembler

1) Assembler is a program for converting instructions in low-level Asambly code into relocatable machine code and generating along information for the loader.

1 Tr generates instructions by evaluating the mnemonics csymbols in operation file field and find the value of symbols and literals to produce machine code

Assembly

Assembler

Machine Cole

(Object modules)

(d) Linker / Link Editors

linker is a program in a system which helps to link an object modules of program into a single object file.

It performs the process of Linking (Collecting and maintaining prece of code into a single tile?

3 Linker also links a particular module into

system library

4) It takes object modules from assembler as input and forme an executable file as output for loader.

Object Code

and boo

> Linker Executable

a	(e) Loader goo	odoma - At molga (8)
(ga	1) Loader is the program	of the OS which loads the
Janua N	executable from the dis	into the primary memory
	c RAM) for exceution	gought of the
	2) It allocates the men	very space to the executable
10 6	module in the main	memory and then transfers
-	the control to the	begaining instruction of the
	program.	ib aintime branch
^	IV. C	
<u> (2)</u>	Difference between Compiler and	Interpreter.
	C :	
		Interpreter Children
	program in one go.	1 Translater program one statement
	program one go.	
		@ Errors are shown line by
	the errore (if ony) are shown	
	at the end toghether	March spint D
	1000 1 1019 10mg	played aprod @
	a main Advantage of compiler	3 Due to interpreters being slow
	- Shecution time	in executing the object code,
o Give	1919 12 pourt 22 per to 100 of 00	It is preferred len.
*		2
	4) Dow not require source code	(d) requires source code for
	for taker execution	later execution.
	\$ 8g: C, C++, C# etc.	@ Eg Python, Ruby, Perl

10 10 10

3	Explain the Sementic Gap.		
	1 The semantic gap characterizes the difference between two		
1200	descriptions of an object by different linguistic representation		
	for eg. longuages or symbols.		
Jako	ox of the discolor the marriery space to the exe		
ici	a According to Hein the sementic gap can be defined as		
sat 1	"the difference in meening between construct code		
	formed within different representation eyetems."		
-	Sementico pod sometila		
	Gap		
	Vilagoria (Jakopaliv		
stol2 s	Compiler and the translated program of		
_	Application Execution		
	Domain domain		
Ad san	3 Consequences of Sometic Gap:		
	1 large development times		
	2 Large development extent lesser		
of board	3 Poor Quality Software		
charte	to all particular all communities and communit		
	Sumantic Gap con be solved via software engineering.		
- XI 2	43 ording to telling the section of the section of the		
	for toky execution (ety executor)		
	100 the country of the country to th		
7 70			