

II B.Tech (CSE-CO-Unit 2& 3-Assignmen -7 on dt.6.1.18

- 1) How do you identify a overflow in signed complement arithmetic?
- 2) What advantage does 2's complement have over 1's complement?
- 3) What are the decimal equivalent values of (1111 1 1 1 1 1 1 0 1) and (10 0 0 1 0) if they are interpreted as a 2's complement numbers?
- 4) What is the operation to be performed ,to represent a signed number, in 2's complement form, using larger number of bits ?
- 5) What is the 2's complement of the number (1000000000)?
- 6) How many bits of binary,atleast, are required to distinguishes 17 elements ?
- 7) Name the type of memory assignment (byte addresses) used in Intel machines
- 8) What is the name of the term used for memory to represent '**Successive addresses refer to successive bytes**' ?
- 9) **When words are said to be aligned in memory ?**
- 10) **Name two basic operations for memory operation.**
- 11) **What is the name of the notation used to describe the transfer of information from one location in the computer to another ?**
- 12) **One example of implicit addressing is-----**
- 13) **What is the content of status register?**
- 14) **m) what are the assembly directives USED for the following?**

- a) To assign the memory required for the block of code.
- b) To specifies the end of execution of a program.
- c) To perform initialization before the execution of the code .
- d) To replace the variable with a constant value.
- e) To specify and assign the memory required for the block of code.
- f) To specify the end of execution of a program

- 14).Name the method of accessing the I/O devices by repeatedly checking the status flags.
- 15).Name the process where in the processor constantly checks the status flags of the I/O devices.
- 16).Name the scheme in which portions of I/O address space are given to I/O devices,
- 17).Name the scheme in which I/O address space is separately mapped.
- 18).Name the method used to o synchronize the processor with the I/O device in which the device sends a signal when it is ready.
- 19).The carry out signal from the sign bit position is a sufficient indication of overflow.
Ans. True/False
- 20)

Main Questions.

- A. What are the 3 systems used for representing both positive and negative numbers in computers? What are advantages of using 2's complement arithmetic over the others.
- B. How an coded information in a 32 bit word is represented in **big endian** and **little endian** assignments?
- C. Represent the following instructions(operations) in Register transfer notations.
 - i. *To add the content of R1 and R2 and then place the SUM in R3.*
 - ii. *To copy the contents of LOCA into R.*
 - iii. *To transfer the content of Rx to Ry when s=1.*
 - iv. *To Increment the value of Rz*

D. Assembly language notation-

Represent the following machine instructions Using 3/2/1/0 addresses

Note. All capital letters refer memory locations

- i. Add A to B and store in C*
- ii. Add R4 to R5 and Store in R7.*
- iii. Copy the value of B into C.*
- iv. Copy the value of D to R8*
- v. Copy the value of R9 into E.*

E.i) Write Assembly program to add A and B and store in C using 2 address machine instructions. Assuming the word length is 32 and memory is byte organized, show a possible program segment as it appears in the memory.

ii) How this instruction is executed in two phases: Instruction fetch and Instruction execute.

F) Write An ALL, using 2 addressing machine instructions, to add n numbers with and without using loop statements and show how these program segments appear in the memory.

G) Name some commonly used status flags and how are they be useful for taking decisions?

H) Name commonly used addressing modes and when are they found to be useful in programming.

I) Write a program to read a line of characters and display it y on the computer screen.