For those who have cse341 mid tomorrow:

Previous Semester Mid Question :

1. a. define duty cycle. draw pulse of 50%, 20%, 80%  
b. user software cannot work without system software - justify it  
c. List the possible sign decimal numbers in a 5 bit register

2 a. i) Define Calling Procedure & Called Procedure  
ii) Procedure is related to Stack - explain  
b. write the function of interface.  
c. write the function of ALE, BHE, DEN

3. a. write assembly code for input a character and output.  
b. Define MIPS code and draw the diagram for R,I,J type.   
c. list the number of registers on 8086 and write their function

1 a: parameters that determine the shape of the pulse.

2 a i)

* Calling procedure is a procedure that call another procedure/function or subordinate.

Physical address of calling procedure=(ss\*10)+ sp

* Called procedure is a procedure that has been call by another procedure or function.

Physical address of calling procedure=(ss\*10)+ bp

ii)Whenver calling procedure call any method/function the pointer is move from stack pointer to Base Pointer. And whenever anything is return from call procedure to calling procedure the pointer move from base pointer to stack pointer. (And then diagram)

b) interface: connect between device and bus. 2 main function of interface:buffering and decoding

3 a.char input:

mov ah,1

int 21h

char output:

mov dl,al

mov ah,2

int 21h

3 b. MIPS code is the reduced instruction set computer(RISC) instruction set architecture (ISA)developed my mips technology.

3c

Segment registers:

* **Code Segment** − It contains all the instructions to be executed. A 16-bit Code register stores the starting address of the code segment.
* **Data Segment** − It contains data, constants and work areas. A 16-bit DS register stores the starting address of the data segment.
* **Stack Segment** − It contains data and return addresses of procedures or subroutines. SS register stores the starting address of the stack.
* **Extra segment**: provide additional segments for storing data.
* **Ip:** hold the offset part of data and code memory.

General register:

**AX is the primary accumulator**; it is used in word input/output opearation, word multiplication, division and most arithmetic instructions.

**BX is known as the base register** :hold the current location of pointer and when added with offset value it give a new translated base value.

**CX is known as the count register**: used for string operation having auto incremental and decremental feature.

**DX is known as the data register**. It is also used in word input/output operations, multiplication, division.

**SP**:A POINTER THAT hold the offset part of stack memory or we can say sp hold the offset part of calling procedure

**BP**:additional stack pointer to hold the offset part of stack memory or it hold the offset part of call procedure.

**SI**: It is used as source index for string operations.

**DI**: It is used as destination index for string operations.

**Flag register** : it indicate some condition affected by an execution of an instruction and some of it bits control some operation of EU.