CMPE 312- OPERATING SYSTEMS

EXERCISE 4B(Tuesday 12-14)

Pointer and Functions

In C, when we pass arguments to functions, we pass them by value. We might be in some cases to wish to change the passed arguments' value in the function and receive the new value back once to function has finished. To do this, we can make of use of pointers.
We can use functions with pointers to pass the address of the variables to the functions and access address of function.

Example:

```
#include <stdio.h>
void swap(int *ptr_x, int *ptr_y); //Prototype of swap function declared here
int main(void) {
  int a = 15, b=25;
  swap(&a,&b);
  printf("%d, %d",a,b);
  return 0;
}
void swap(int *ptr_x, int *ptr_y){
  int temp;
  temp = *ptr_x;
  *ptr_x = *ptr_y;
  *ptr_y = temp;
}
```

Structs and Pointers

C is not an object oriented programming language, so we do not have classes and objects.

However, we have Struct type to create and to hold different type of information altogether.

Example:

```
#include <stdio.h>
#include <stdlib.h>
typedef struct employee {
  char name[30];
  int year_of_experience;
  double salary;
} employees;

int main(void) {
  employees *list_of_employees;
  int number_of_employees, i;
  printf("How many employees would you like to list?");
  scanf("%d",&number_of_employees);
  list_of_employees =
malloc(number_of_employees*sizeof(employees));
  for(i = 0; i < number_of_employees; ++i)
   {
       printf("Enter first name and age respectively: ");
       scanf("%s%d", (list_of_employees+i)->name,
&(list_of_employees+i)->year_of_experience);
   }
  return 0;
}
```

TASK: You are expected to list also the salary info of the employees and display information of the employees one by one.