Embedded Software Developer course

Structures

Task#1: Create a structure called Account containing Account#, Account Name and balance. Then create three structure Account variables.

```c
#include <stdio.h>
#include <stdlib.h>
int main(){
     struct account
     {
          int no;
          char acc_name[15];
          float bal;
     };
     struct account a1;/*a1 is a struct account var*/
     struct account a2;/*a2 is a struct account var*/
     struct account a3;/*a3 is a struct account var*/
     printf("\nEnter account nos,names,and
balances\n");
     scanf("%d %s %f",&a1.no,a1.acc_name,&a1.bal);
     scanf("%d %s %f",&a2.no,a2.acc_name,&a2.bal);
     scanf("%d %s %f",&a3.no,a3.acc_name,&a3.bal);

     printf("\n%d %s %f",a1.no, a1.acc_name,a1.bal);
     printf("\n%d %s %f",a2.no ,a2.acc_name,a2.bal);
     printf("\n%d %s %f",a3.no ,a3.acc_name,a3.bal);

     return 0;
}
```

Task#2: Create an array of type structure account of size 10.

```c
#include <stdio.h>
#include <stdlib.h>
int main(){
	struct account
	{
		int no;
		float bal;
	};
	struct account a[10];/* array of type structure account*/
	int i,acc;float balance;
	for(i=0;i<=9;i++){
		printf("\nEnter Account no. and balance: ");
		scanf("%d %f",&acc,&balance);
		a[i].no=acc;a[i].bal=balance;
		printf("%d %f",a[i].no,a[i].bal);
	}

	return 0;
}/*Each element of array has a account structure variable*/
```

Note: Syntax for initializing a structure variable.

```c
#include <stdio.h>
#include <stdlib.h>
int main(){
	struct player
	{
		char name[20];
		int age;
	};
	struct player p1={"Nick Yates",30};

	return 0;
}
```

Task#3: Create a structure variable and a pointer that contains its address. Use the pointer to print structure elements

```c
#include <stdio.h>
#include <stdlib.h>
int main(){
      struct book{
            char name[25];
            char author[25];
            int callno;
      };
      struct book b1={"Best Book","Cool person",101};
      struct book *ptr;/* ptr var contains address of b1 struct
var*/
      ptr=&b1;
      printf("%s %s %d\n",b1.name,b1.author,b1.callno);
      printf("%s %s %d\n",ptr->name,ptr->author,ptr->callno);

}

/*OUTPUT*/

Best Book Cool person 101
Best Book Cool person 101
```

Task#4: Create a structure called Movie which contains variables movie_name,length,Studio_name. Ask the user to enter studio name in the variable Studio_name and display it on screen. You must use structure pointers in your program.