

Lab 5

1. What is the difference between the following two declarations;

2 pts

```
int *p[10];
```

This is an array of 10 int pointers

```
int (*p) [10];
```

This is a pointer to an array of 10 integers.

2. Please explain the following two declarations.

3 pts

```
int (*p)(char (*a)[]);
```

An integer function pointer p that points to a function that takes contains a pointer to an array of char as a parameter and returns an array of integers.

```
int *p(char (*a)[]);
```

An integer function pointer p that points to a function that contains an array of char pointers as its parameter and returns an array of int pointers.

4. Take a look at the following code snippet:

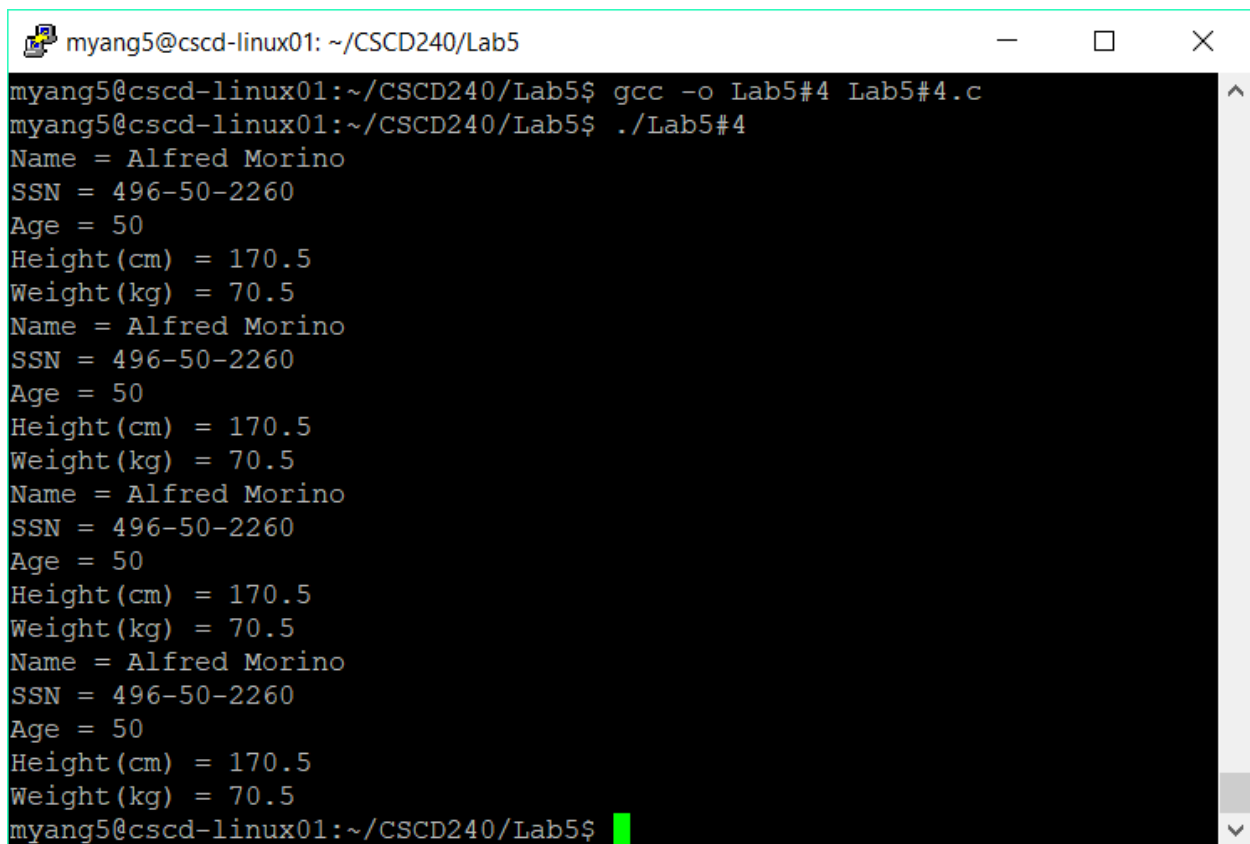
2 pts

```
struct Person{
    char name[BUFSIZ];
    char ssn[BUFSIZ];
    int age;
    float height;
    float weight;
}; struct Person p1;

strcpy(p1.name, "Alfred Morino");
strcpy(p1.ssn, "496-50-2260");
p1.age = 50;
p1.height = 170.5;
p1.weight = 70.5;
struct Person *ptr = &p1;
```

What will be printed by the following expressions?

```
printf("Name = %s\nSSN = %s\nAge = %d\nHeight(cm) = %g\nWeight(kg) = %g\n", p1.name,  
p1.ssn,p1.age, p1.height, p1.weight);  
  
printf("Name = %s\nSSN = %s\nAge = %d\nHeight(cm) = %g\nWeight(kg) = %g\n", ptr->name, ptr->ssn,  
ptr->age, ptr->height, ptr->weight);  
  
printf("Name = %s\nSSN = %s\nAge = %d\nHeight(cm) = %g\nWeight(kg) = %g\n", (*ptr).name,  
(*ptr).ssn, (*ptr).age, (*ptr).height, (*ptr).weight);  
  
printf("Name = %s\nSSN = %s\nAge = %d\nHeight(cm) = %g\nWeight(kg) = %g\n", (&p1)->name, (&p1)-  
>ssn, (&p1)->age, (&p1)->height, (&p1)->weight);
```



```
myang5@cscd-linux01: ~/CSCD240/Lab5  
myang5@cscd-linux01:~/CSCD240/Lab5$ gcc -o Lab5#4 Lab5#4.c  
myang5@cscd-linux01:~/CSCD240/Lab5$ ./Lab5#4  
Name = Alfred Morino  
SSN = 496-50-2260  
Age = 50  
Height(cm) = 170.5  
Weight(kg) = 70.5  
Name = Alfred Morino  
SSN = 496-50-2260  
Age = 50  
Height(cm) = 170.5  
Weight(kg) = 70.5  
Name = Alfred Morino  
SSN = 496-50-2260  
Age = 50  
Height(cm) = 170.5  
Weight(kg) = 70.5  
Name = Alfred Morino  
SSN = 496-50-2260  
Age = 50  
Height(cm) = 170.5  
Weight(kg) = 70.5  
myang5@cscd-linux01:~/CSCD240/Lab5$
```