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CSCD240
Lab #4

1. Identify which of the following expression are valid and which are not valid. If not, please explain.

```
char c;
char *ptr;
int f;

ptr = &c;
```
valid

```
ptr = &f;
```
valid

```
ptr = &'#';
```
not valid, this is not a memory address

```
ptr = &500;
```
not valid, this is not a memory address

```
ptr = &(f+3);
```
this is valid, but probably not useful, for this is will just increment f's memory address by 3.

2. What will be the values of the variables in the lines marked with arrows?

```
int c, a=10;
int *p = &a;
c = *p;                 <-
```
10

```
*p = *p* *p;            <-
```
100

```
(*p)++;                 <-
```
11

```
c=*&a;                  <-
```
10

3. What is the difference between the following two declarations?

```
char array[] =“Hello World”;
char *array =”Hello World”;
```

There is nothing different about these two declarations. Though a pointer is not an array either. The two concepts are different, but in C these two declarations will do the same thing.

4. What is wrong the following program? Please explain. How will you fix it?

```
int main(){

        int i;
        int *ptr = &i;
        scanf(“%d”,&ptr);
        printf(“The value of i is: %d\n”,*ptr);
        return 0;
}
```

scanf() needs to be passed just ptr, not &ptr. Then the code will work.