Princeton University COS 217: Introduction to Programming Systems C Structures

Defining a Structure Type

```
struct S
{
   int i;
   double d;
}:
```

Defining a Structure

```
struct S s1;
...
}
```

Initializing a Structure

```
{
   struct S s1 = {1, 2.2};
   ...
}
```

Accessing the Fields of a Structure

```
struct S s1;
struct S *ps2;
...
s1.i = 1;
s1.d = 2.2;
...
ps2 = &s1;
...
(*ps2).i = 3;
(*ps2).d = 4.4;
...
ps2->i = 5;
ps2->d = 6.6;
...
}
```

Assigning One Structure to Another

```
{
    struct S s1;
    struct S s2;
    ...
    s2 = s1;
    ...
}
```

Structures as Function Parameters

```
void f(struct S s)
{
    ...
}
struct S s1;
...
f(s1);
...
```

Structures as Function Return Values

```
struct S f(void)
{
    struct S s;
    ...
    return s;
}
struct S s1;
...
s1 = f();
...
```

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