

Data Types

CS 3410: Computer System Organization and Programming



Type Aliases

```
#include <stdio.h>

typedef int number;

void main() {
    number x = 3410;
    int y = x / 2;
    printf("%d %d!\n", x, y);
}
```

Structures

```
#include <stdio.h>
```

```
struct point {  
    int x;  
    int y;  
}
```

```
void print_point(struct point p) {  
    printf("(%d, %d)\n", p.x, p.y);  
}
```

```
void main() {  
    struct point location = {4, 10};  
    location.y = 2;  
    print_point(location);  
}
```



Short Names for Structs

```
#include <stdio.h>

typedef point {
    int x;
    int y;
} point_t;

void print_point(point_t p) {
    printf("(%d, %d)\n", p.x, p.y);
}

void main() {
    point_t location = {4, 10};
    location.y = 2;
    print_point(location);
}
```



Enumerations

```
#include <stdio.h>
```

```
typedef enum {  
    SPRING,  
    SUMMER,  
    AUTUMN,  
    WINTER,  
} season_t;
```

```
int main() {  
    season_t now = WINTER;  
    season_t next = SPRING;  
    printf("%d %d\n", now, next);  
    return 0;  
}
```

