Programming Paradigms

CT331 Week 3 Lecture 3

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User Defined Types: Structs

Structs

Struct is a user defined grouping of other data types

Help structure code and group related information together

Helps allocate memory reliably

Can be used to imitate objects

Structs are created in a similar way to enums

Structs

```
struct structure_name
{
    data_type member1;
    data_type member2;
    .
    .
    data_type memberN;
};
```

```
struct person
{
    int age;
    char* firstName;
    char* surname;
};

Struct person bob;
```

```
//or
struct person
{
    int age;
    char* firstName;
    char* surname;
} bob;
```

Structs

```
//an array of people

struct person
{
    int age;
    char* firstName;
    char* surname;
} ct331class[];
```

Memory allocation

```
void *malloc(size_t size)
```

Allocates a section of memory and returns a pointer to it.

- Size is in bytes….sizeof() returns bytes...*see where this is going?*

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sizeof(structure) includes all the members of that structure!