EECE.2160: ECE Application Programming Fall 2016

Lecture 25: Key Questions November 7, 2016

1. Describe what a structure is in C, and how structures can be useful.

3. Show how variables of a given structure type can be declared and initialized.

4. Show how elements within a structure can be accessed.

5. **Example:** What does the following program print?

```
#include <stdio.h>
typedef struct {
     double real;
     double imag;
} Complex;
int main() {
     Complex a = \{1, 2\};
     Complex b = \{3.4, 5.6\};
     Complex c, d, e;
     printf("A = %.21f + %.21fi\n", a.real, a.imag);
     printf("B = %.21f + %.21fi\n", b.real, b.imag);
     c = a;
     d.real = a.real + b.real;
     d.imag = a.imag + b.imag;
     e.real = a.real - b.real;
     e.imag = a.imag - b.imag;
     printf("C = %.2lf + %.2lfi\n", c.real, c.imag);
     printf("D = %.21f + %.21fi\n", d.real, d.imag);
    printf("E = %.21f + %.21fi\n", e.real, e.imag);
     return 0;
}
```