

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 = %.21f + %.21fi\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;
}
```