##### Chapter 10 Structure and Union Types

###### True/False

1. A component of a structure can be another structure or an array, as well as a simple data type. [True]
2. To reference a component of a structured variable, one uses the variable name followed by a period followed by the component name. [True]
3. A database is a collection of information stored in a computer's memory or in a disk file.

[True]

1. The following structure type definitions are equivalent.

typedef struct { typedef struct {

double a1, b1; double a1;

} st\_t; double b1;

} st\_t; [True]

1. A typedef statement allocates no memory. [True]

###### Multiple Choice

1. What is the data type of the expression

emp1.salary > emp2.salary

typedef struct {

char name[20];

int id;

double salary;

} emprec\_t;

. . .

emprec\_t emp1, emp2;

char ch1;

int flag1, flag2;

a. double

\*b. int

c. char

d. emprec\_t

e. The expression is invalid.

1. Which of the following could not be a valid statement given the code snippet below?

typedef struct {

char name[20];

int id;

double salary;

} emprec\_t;

. . .

emprec\_t emp1, emp2;

char ch1;

int flag1, flag2;

\*a. emprec\_t.id = 87654;

b. emp1.salary \*= 1.05;

c. ch1 = emp2.name[0];

d. printf("%.2f", emp1.salary);

e. All of the above are valid.

1. Which reference could mean

- Follow the pointer in stemp to a structure.

- Select the component named nums (this component is an array).

- Reference element 4 of the array.

a. stemp.nums[4]

b. \*stemp.nums[4]

\*c. (\*stemp).nums[4]

d. \*(stemp.nums)[4]

e. none of the above

1. The placeholder used in a printf or scanf format string for structure I/O is

a. %st

b. \st

c. %dlf

d. \dlf

\*e. none of the above

1. Given the following type and variable declarations,

typedef union {

char guardian[25];

char employer[35];

} contact\_t;

typedef struct {

int age;

contact\_t contact;

} person\_t;

person\_t newcomer;

enough memory is allocated for variable newcomer to store

a. one integer and 60 characters

\*b. one integer and 35 characters

c. one integer or 25 characters or 35 characters

d. 60 characters

e. none of the above