EECS 10: Computational Methods in **Electrical and Computer Engineering** Quiz on Lectures 19-25

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Quiz: Question 1 Midterm 2 Question 1: 40% incorrect answers

- Which property is required for an algorithm? (Check all that apply!)
 - a) An algorithm must be fast.
 - b) An algorithm must terminate after a finite number of steps.
 - c) An algorithm must be efficient.
 - d) An algorithm must be indeterministic.
 - e) An algorithm must be formally written in the C programming language.

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Quiz: Question 2 Midterm 2 Question 5: 80% incorrect answers

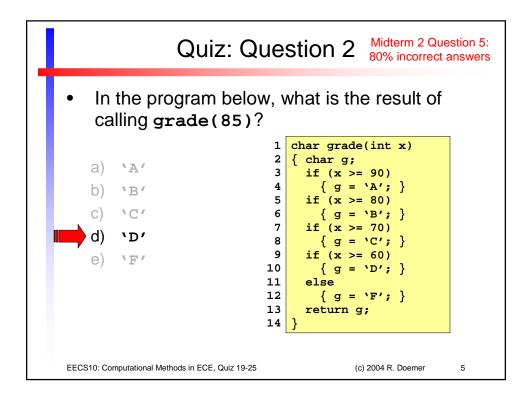
- In the program below, what is the result of calling grade (85)?
 - a) **'A'**
 - b) **'B'**
 - c) 'C'
 - d) 'D'
 - e) **'F'**

```
1 char grade(int x)
   { char g;
     if (x >= 90)
        { g = 'A'; }
     if (x >= 80)
        \{g = `B'; \}
         (x >= 70)
 7
        { g = 'C'; }
 8
9
     if (x >= 60)
10
        {g = `D'; }
11
12
        \{g = F'; \}
13
     return g;
14 }
```

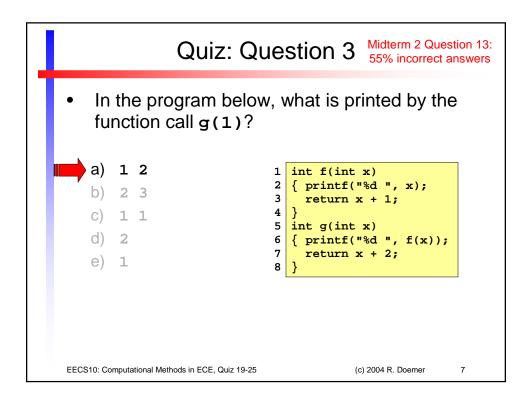
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```
Quiz: Question 3 Midterm 2 Question 13: 55% incorrect answers
    In the program below, what is printed by the
    function call g(1)?
   a) 1 2
                                   int f(int x)
                                   { printf("%d ", x);
   b) 2 3
                                3
                                     return x + 1;
      1 1
                                5 int g(int x)
   d)
        2
                                   { printf("%d ", f(x));
                                     return x + 2;
                                7
   e) 1
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                                                             6
```



```
Quiz: Question 4 Midterm 2 Question 15:
                                              60% incorrect answers
    In the program below, what is printed when
    the program is executed?
                              int x = 5, y = 6;
   a) 11 6 6
                              int f(int x, int y)
   b) 12 6 6
                           3 \quad \{ \quad \mathbf{x} = \mathbf{y}; \quad
                                 return x + y;
       10 5 6
                           5
                              int main(void)
   d) 11 5 6
                              { printf("%d %d %d",
   e) 12 5 6
                                             f(x,y), x, y);
                           8
                                 return 0;
                           9
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                                                             8
```

Quiz: Question 4 Midterm 2 Question 15: 60% incorrect answers In the program below, what is printed when the program is executed? 1 int x = 5, y = 6; a) 11 6 6 int f(int x, int y) b) 12 6 6 $\{ \mathbf{x} = \mathbf{y};$ return x + y; c) 10 5 6 5 6 int main(void) 11 5 6 { printf("%d %d %d", f(x,y), x, y);12 5 6 8 return 0; 9 EECS10: Computational Methods in ECE, Quiz 19-25 (c) 2004 R. Doemer

Quiz: Question 5 Midterm 2 Question 16: 65% incorrect answers

 Which of the following are correct definitions of an array of four characters that is initialized with the first three letters of the alphabet? (Check all that apply!)

```
a) char s[4] = {'A', 'B', 'C'};
b) char s[] = "ABC";
c) char s[] = 'ABC';
d) char s[4] = {"A", "B", "C"};
e) char s[3] = {'A', 'B', 'C'};
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```

Quiz: Question 5 Midterm 2 Question 16: 65% incorrect answers

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```

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Quiz: Question 6

- What is recursion? (Check all that apply!)
 - a) A function that does not terminate.
 - b) A function that calls itself.
 - c) A function declaration within a function definition.
 - d) A function f that calls a function g which calls f.
 - e) A function that returns no value.

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Quiz: Question 7

- Given the function definition below, what is printed for the function call £(4)?
 - a) 1 2 3 4
 - b) 1 2 3
 - c) 4 3 2 1 0
 - d) 4 3 2 1
 - e) 3 2 1

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Given the function definition below, what is printed for the function call f(4)?

```
a) 1 2 3 4
b) 1 2 3
```

printf("%d ", x); if (x > 0)5 $\{ f(x-1); \}$ 6 }

1 void f(int x)

- 4 3 2 1 0
- 4 3 2 1
- 3 2 1

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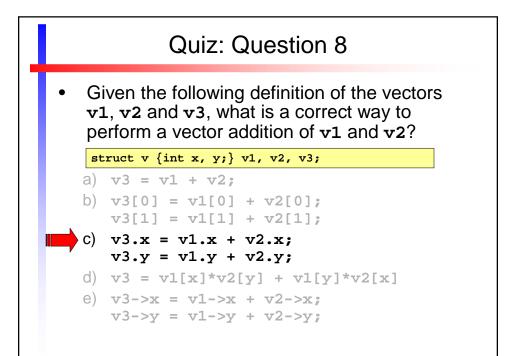
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Quiz: Question 8

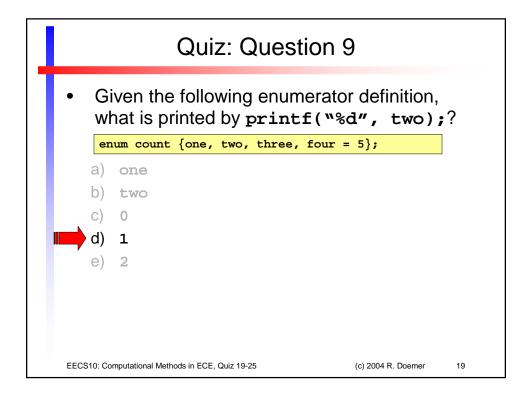
Given the following definition of the vectors v1, v2 and v3, what is a correct way to

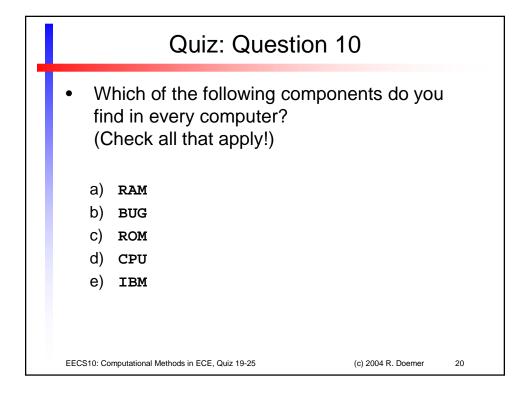
```
perform a vector addition of v1 and v2?
    struct v {int x, y;} v1, v2, v3;
   a) v3 = v1 + v2;
   b) v3[0] = v1[0] + v2[0];
      v3[1] = v1[1] + v2[1];
   c) v3.x = v1.x + v2.x;
      v3.y = v1.y + v2.y;
   d) v3 = v1[x]*v2[y] + v1[y]*v2[x]
   e) v3->x = v1->x + v2->x;
      v3->y = v1->y + v2->y;
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                                                 16
```

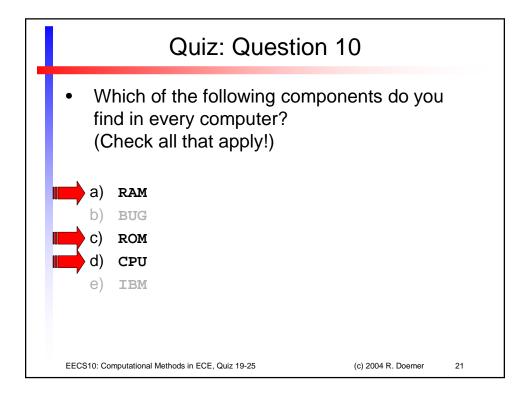


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Quiz: Question 9 • Given the following enumerator definition, what is printed by printf("%d", two);? enum count {one, two, three, four = 5}; a) one b) two c) 0 d) 1 e) 2 EECS10: Computational Methods in ECE, Quiz 19-25 (c) 2004 R. Doemer 18







Quiz: Question 11 What is the decimal value of the (unsigned) binary number 10101010₂? a) 10101010 b) 170 c) 85 d) 101 e) 255 EECS10: Computational Methods in ECE, Quiz 19-25 (c) 2004 R. Doemer

Quiz: Question 11 What is the decimal value of the (unsigned) binary number 10101010₂? a) 10101010 b) 170 c) 85 d) 101 e) 255 EECS10: Computational Methods in ECE, Quiz 19-25 (c) 2004 R. Doemer 23

Quiz: Question 12 What is the binary value of the hexadecimal number 1F₁₆? a) 01010101 b) 10010000 c) 01111111 d) 00011111 e) 10001111

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Quiz: Question 13

- What could cause a bus error?
 (Check all that apply!)
 - a) Waking up late and missing the bus.
 - b) Calling a recursive function.
 - c) Accessing an array with an index out of range.
 - d) Accessing an pointer variable with invalid value.
 - e) Accessing an integer variable with invalid value.

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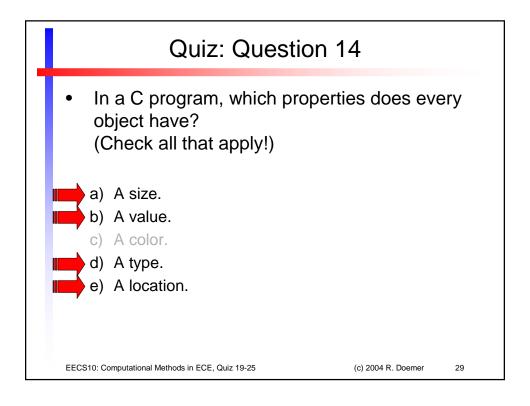
Quiz: Question 14

- In a C program, which properties does every object have?
 (Check all that apply!)
 - a) A size.
 - b) A value.
 - c) A color.
 - d) A type.
 - e) A location.

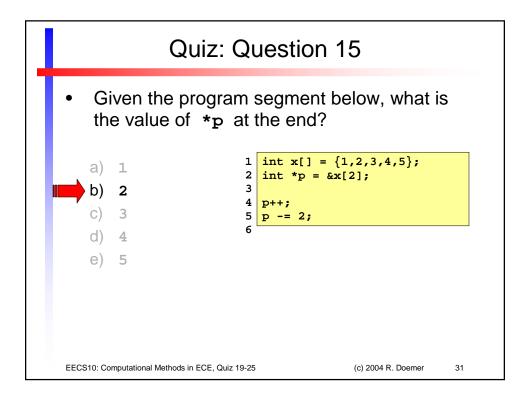
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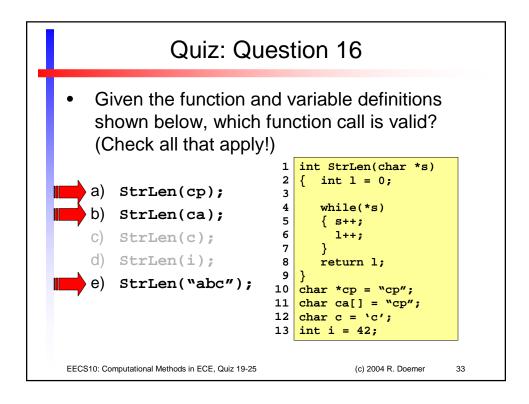
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Quiz: Question 15 Given the program segment below, what is the value of *p at the end? a) 1 b) 2 c) 3 d) 4 e) 5 EECS10: Computational Methods in ECE, Quiz 19-25 (c) 2004 R. Doemer 30



```
Quiz: Question 16
   Given the function and variable definitions
   shown below, which function call is valid?
   (Check all that apply!)
                             1 int StrLen(char *s)
                             2 { int 1 = 0;
   a) StrLen(cp);
                             3
                                  while(*s)
   b) StrLen(ca);
                             5
                                  { s++;
                             6
                                    1++;
   c) StrLen(c);
                             7
   d) StrLen(i);
                             8
                                  return 1;
                             9 }
   e) StrLen("abc");
                            10 char *cp = "cp";
                            11 char ca[] = "cp";
                            12 char c = 'c';
                            13 int i = 42;
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```



Which of the following are functions declared in stdio.h? (Check all that apply!) a) printf b) printd c) fprintf

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d) sprintfe) fputs

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