EECS 10: Computational Methods in Electrical and Computer Engineering Quiz on Lectures 18-24

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Midterm 2 Review Quiz

- Top 5 most "difficult" questions:
 - Rank 5: Question 7 (78% wrong answers)
- Given the definition double p=0.0125;
 which of the following C statements will print out p = 1.25%?

(Check all that apply! 2 pts.)

- a) printf("p = %d.25%%", (int)(p*100.0));
- b) printf("p = %p", 100.0*p);
- c) printf("p = %.2f%%", p*100.0);
- d) printf("p = %.2f%c", p*100.0, '%');
- e) printf("p = ", 100.0 * p, "%%");

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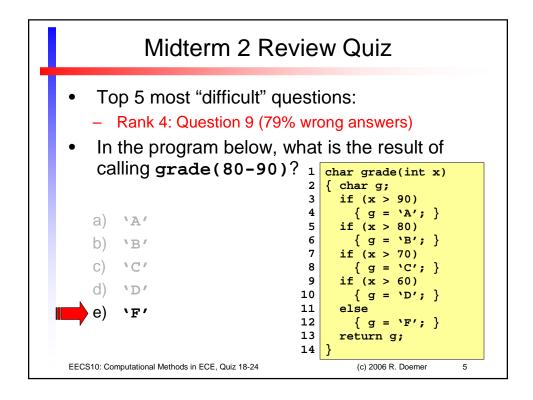
Midterm 2 Review Quiz Top 5 most "difficult" questions: - Rank 5: Question 7 (78% wrong answers) Given the definition double p=0.0125; which of the following C statements will print out p = 1.25%? (Check all that apply! 2 pts.) a) printf("p = %d.25%%", (int)(p*100.0)); b) printf("p = %p", 100.0*p); c) printf("p = %.2f%%", p*100.0); d) printf("p = %.2f%c", p*100.0, '%'); e) printf("p = ", 100.0 * p, "%%");

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```
{ g = 'A'; }
a) \A'
                                   if (x > 80)
                                       g = 'B'; }
                               6
b) 'B'
                                   if(x > 70)
    'C'
                                     { g = 'C'; }
                              9
                                   if(x > 60)
    'D'
                                     { g = 'D'; }
                              10
                              11
                              12
                                     { g = 'F'; }
                              13
                                   return g;
                              14 }
```

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- Top 5 most "difficult" questions:
 - Rank 3: Question 1 (81% wrong answers)
- Which of the following statements is true for an algorithm?
 (Check all that apply! 2 pts.)
 - a) An algorithm must be indeterministic.
 - b) An algorithm solves a problem quickly.
 - c) An algorithm is historically based on Al Gore's rythm.
 - d) An algorithm executes a program using pseudo code.
 - e) An algorithm must terminate after a finite number of steps.

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Midterm 2 Review Quiz

- Top 5 most "difficult" questions:
 - Rank 2: Question 3 (82% wrong answers)
- Which of the following declarations can be added to the program in line 8 without creating a compilation error?

```
(Check all that apply! 2 pts.)
                             1 int x = 2;
                             2 int f(int v, double w);
                             3 int g(int x, int y)
a) int f(int v, double w); 4 { int z;
                             5
                                  z = 2*x + 5*y - 42;
b) int g = 0;
                                  return z;
   int g(int x, int y);
   int x = 2;
```

int f(double v, double w);

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- Top 5 most "difficult" questions:
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```
(Check all that apply! 2 pts.)

a) int f(int v, double w);
b) int g = 0;
c) int g(int x, int y);
d) int x = 2;
e) int f(double v, double w);

int x = 2;
fint x = 2;
fint x = 2;
fint x, int y)
{
    int z;
    z = 2*x + 5*y - 42;
    return z;
}

d) int x = 2;
e) int f(double v, double w);
```

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Midterm 2 Review Quiz

- Top 5 most "difficult" questions:
 - Top Rank: Question 25 (89% wrong answers)
- The following function issorted is supposed to return true if and only if the given array L is sorted in increasing order.
- What should go into Box1 in line 3?

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- Top 5 most "difficult" questions:
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- The following function issorted is supposed to return true if and only if the given array L is sorted in increasing order.
- What should go into Box1 in line 3?

```
a) i=1; i<10; i++ 1
b) i=0; i<10; i++ 3
c) i=0; i<9; i++ 4
d) i=10; i>0; i-- 6
e) i=9; i>=0; i-- 8
```

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Midterm 2 Review Quiz

- Top 5 most "difficult" questions:
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- The following function issorted is supposed to return true if and only if the given array L is sorted in increasing order.
- What should go into Box2 in line 5?

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- Top 5 most "difficult" questions:
 - Top Rank: Question 25 (89% wrong answers)
- The following function issorted is supposed to return true if and only if the given array L is sorted in increasing order.
- What should go into Box2 in line 5?
- a) return 0
 - b) return 1c) continue
 - d) break
 - e) return

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Midterm 2 Review Quiz

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 - Top Rank: Question 25 (89% wrong answers)
- The following function issorted is supposed to return true if and only if the given array L is sorted in increasing order.
- What should go into Box3 in line 7?

```
a) return 0
```

- b) return 1
- c) continue
- d) break
- e) return

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```
1 int issorted(int L[10])
2 { int i;
3 for( Box1 )
4 { if(L[i] >= L[i+1])
5 { Box2; }
6 }
7 Box3;
8 }
```

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Quiz: Question 1

 Which of the following are correct definitions of a string s 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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 Which of the following are correct definitions of a string s 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 2

- 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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- What is recursion? (Check all that apply!)
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Quiz: Question 3

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

```
a) 1 2 3 4
b) 1 2 3
  3 2 1 0
```

- 1 void f(int x) printf("%d ", x); if (x > 0)5 $\{ f(x-1); \}$
- 4 3 2 1
- 3 2 1

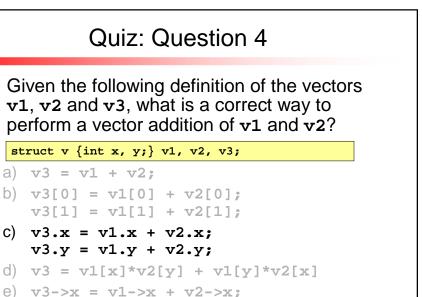
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Quiz: Question 4

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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```



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Quiz: Question 5

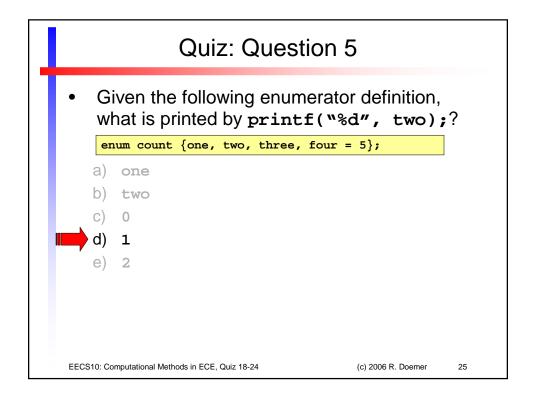
• Given the following enumerator definition,
 what is printed by printf("%d", two);?
 enum count {one, two, three, four = 5};

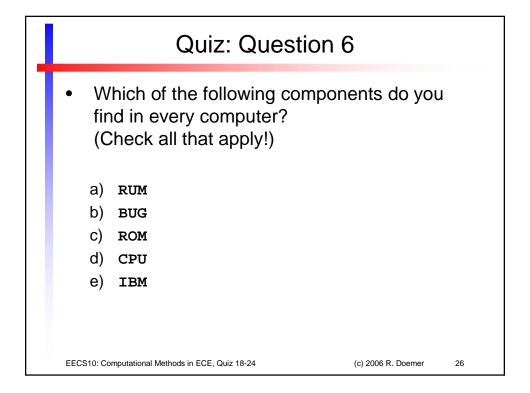
a) one
b) two
c) 0
d) 1
e) 2

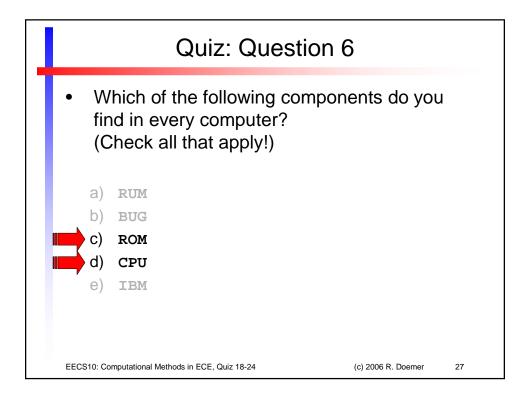
v3->y = v1->y + v2->y;

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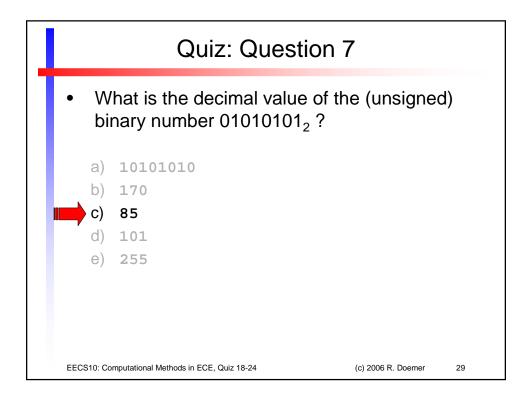
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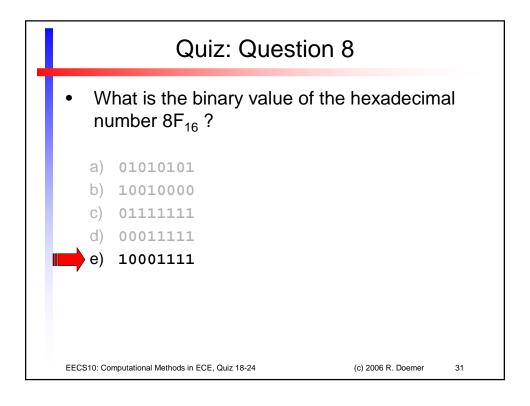




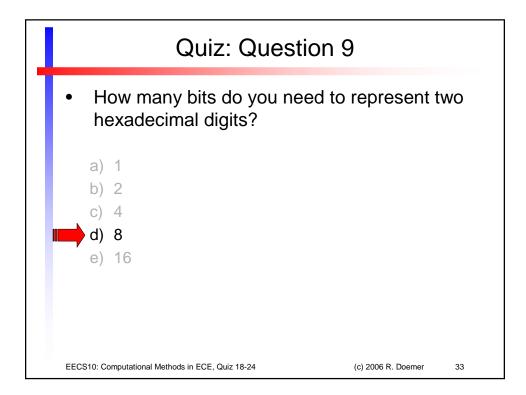
Quiz: Question 7 • What is the decimal value of the (unsigned) binary number 01010101₂? a) 10101010 b) 170 c) 85 d) 101 e) 255 EECS10: Computational Methods in ECE, Quiz 18-24 (c) 2006 R. Doemer 28



Quiz: Question 8 What is the binary value of the hexadecimal number 8F₁₆? a) 01010101 b) 10010000 c) 01111111 d) 00011111 e) 10001111



Quiz: Question 9 How many bits do you need to represent two hexadecimal digits? a) 1 b) 2 c) 4 d) 8 e) 16 EECS10: Computational Methods in ECE, Quiz 18-24 (c) 2006 R. Doemer 32



- 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) Referencing a pointer variable with invalid value.
 - e) Accessing an integer variable with invalid value.

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- What could cause a bus error? (Check all that apply!)
 - a) Waking up late and missing the bus.
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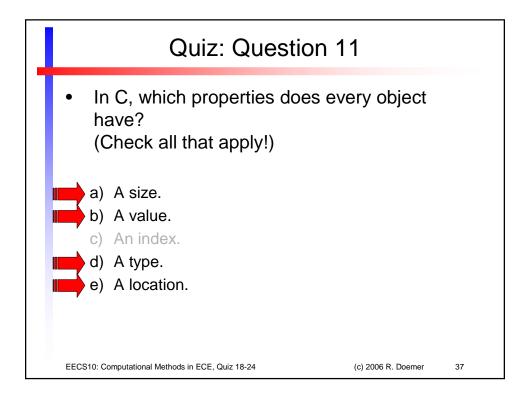
Quiz: Question 11

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

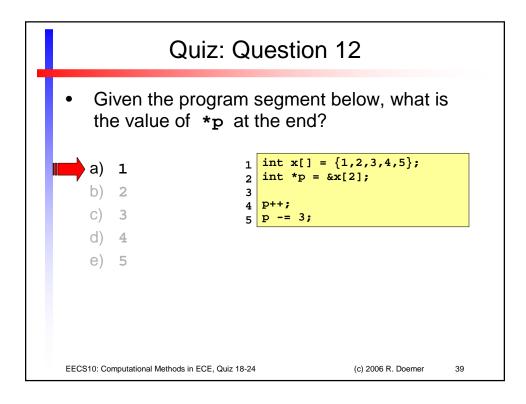
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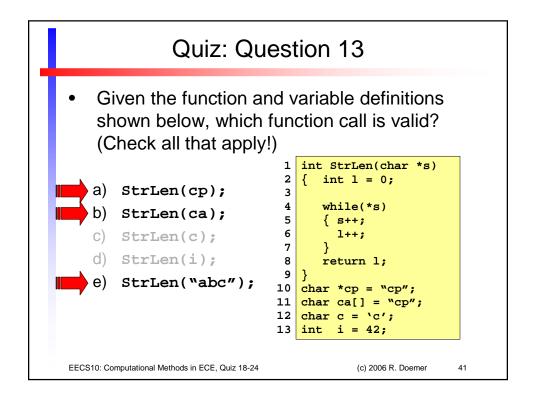
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• Given the program segment below, what is the value of *p at the end? a) 1 b) 2 c) 3 c) 3 d) 4 e) 5 EECS10: Computational Methods in ECE, Quiz 18-24 • Given the program segment below, what is the value of *p at the end? $\begin{bmatrix} int & x[] & \{1,2,3,4,5\}; \\ int & *p & & & & & & \\ p++; \\ p-= 3; \end{bmatrix};$ (c) 2006 R. Doemer 38



```
Quiz: Question 13
   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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```

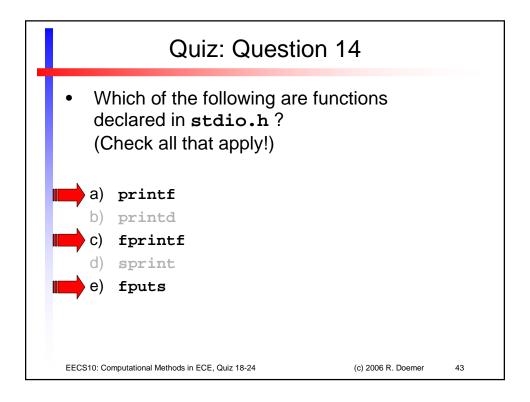


- Which of the following are functions declared in stdio.h?
 (Check all that apply!)
 - a) printf
 - b) printd
 - c) fprintf
 - d) sprint
 - e) fputs

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What does the following code segment print?

```
char s[] = "Hppe!Mvdl!boe!Ibqqz!Ipmjebzt";
char *p;
p = &s[0];
while(*p)
{ printf("%c", *p - 1);
    p++;
}
```

- a) Hppe!Mvdl!boe!Ibqqz!Ipmjebzt
- b) Happy Luck and Good Holidays
- c) Happy Holidays and Good Luck
- d) Good Holidays and Happy Luck
- e) Good Luck and Happy Holidays

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print?

char *p;

Quiz: Question 15 What does the following code segment char s[] = "Hppe!Mvdl!boe!Ibqqz!Ipmjebzt"; 3 p = &s[0];4 while(*p)

- a) Hppe!Mvdl!boe!Ibqqz!Ipmjebzt b) Happy Luck and Good Holidays
- C) Happy Holidays and Good Luck
- d) Good Holidays and Happy Luck
- e) Good Luck and Happy Holidays

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{ printf("%c", *p - 1);