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

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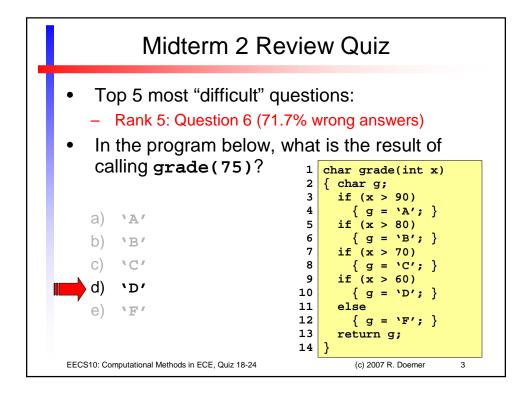
Midterm 2 Review Quiz

- Top 5 most "difficult" questions:
 - Rank 5: Question 6 (71.7% wrong answers)
- In the program below, what is the result of

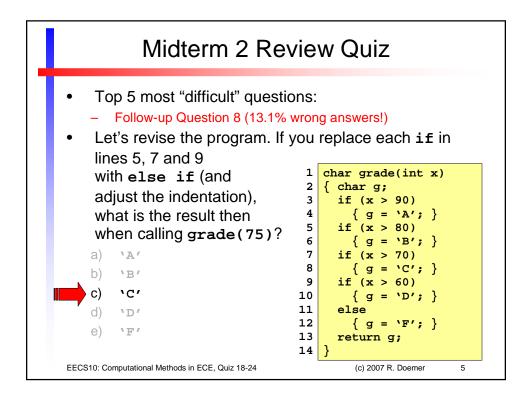
```
calling grade (75)?
                              1 char grade(int x)
                                { char g;
                                  if (x > 90)
                                     { g = 'A'; }
a)
   `A'
                                  if(x > 80)
                                    { g = 'B'; }
                              6
b)
    'B'
                                  if (x > 70)
                                    { g = 'C'; }
    'C'
                                  if(x > 60)
                              9
    'D'
                                    { g = 'D'; }
                             10
                             11
                             12
                                     { g = 'F'; }
                             13
                                  return g;
                             14 }
```

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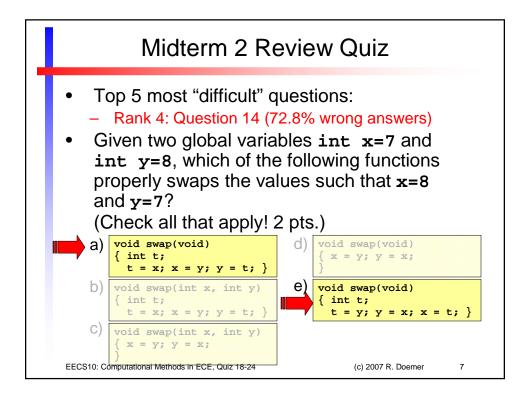
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```
Midterm 2 Review Quiz
    Top 5 most "difficult" questions:
   Follow-up Question 8 (13.1% wrong answers!)
    Let's revise the program. If you replace each if in
    lines 5. 7 and 9
                                   1 char grade(int x)
    with else if (and
                                      { char g;
    adjust the indentation),
                                        if (x > 90)
                                          { g = 'A'; }
    what is the result then
                                        if (x > 80)
    when calling grade (75)?
                                          { g = 'B'; }
       'A'
                                        if(x > 70)
   a)
                                          { g = 'C'; }
       'B'
   b)
                                   9
                                        if(x > 60)
   c)
        'C'
                                          { g = 'D'; }
                                  10
                                  11
       'D'
                                  12
                                          { g = 'F'; }
                                  13
                                        return g;
                                  14 }
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```



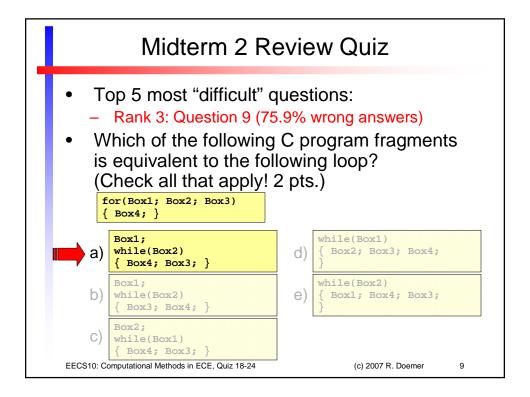
```
Midterm 2 Review Quiz
   Top 5 most "difficult" questions:
   Rank 4: Question 14 (72.8% wrong answers)
   Given two global variables int x=7 and
    int y=8, which of the following functions
   properly swaps the values such that x=8
   and y=7?
    (Check all that apply! 2 pts.)
      void swap(void)
                                d) void swap(void)
       { int t;
                                    \{ x = y; y = x; \}
        t = x; x = y; y = t; }
                                e) |
      void swap(int x, int y)
                                    void swap(void)
                                    { int t;
       { int t;
        t = x; x = y; y = t; }
                                      t = y; y = x; x = t; }
      void swap(int x, int y)
       \{ x = y; y = x; \}
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                                                         6
```



```
Midterm 2 Review Quiz
   Top 5 most "difficult" questions:

    Rank 3: Question 9 (75.9% wrong answers)

    Which of the following C program fragments
    is equivalent to the following loop?
    (Check all that apply! 2 pts.)
     for(Box1; Box2; Box3)
     { Box4; }
       Box1:
                                      while(Box1)
                                      { Box2; Box3; Box4;
       while(Box2)
                                  d)
       { Box4; Box3; }
       Box1;
                                      while(Box2)
       while(Box2)
                                      { Box1; Box4; Box3;
                                  e)
       { Box3; Box4; }
       Box2:
       while(Box1)
       { Box4; Box3; }
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                                                           8
```



Midterm 2 Review Quiz

- Top 5 most "difficult" questions:
 - Rank 2: Question 16 (76.4% wrong answers)
- Which of the following are valid declarations of an integer array A of size 3?
 (Check all that apply! 2 pts.)

```
a) int A[3] = {1,2,3};
b) int A[3] = {1,2};
c) int A[3];
d) int A[] = {1,2,3};
e) int A[3] = {};

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```

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Midterm 2 Review Quiz

- Top 5 most "difficult" questions:
 - Rank 2: Question 16 (76.4% wrong answers)
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 (Check all that apply! 2 pts.)

```
a) int A[3] = {1,2,3};
b) int A[3] = {1,2};
c) int A[3];
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e) int A[3] = {};
```

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Midterm 2 Review Quiz

- Top 5 most "difficult" questions:
 - Rank 1: Question 4 (81.2% wrong answers)
- In the gdb debugger, which commands allow you to run your program step by step? (Check all that apply! 2 pts.)
 - a) step
 - b) cont
 - c) next
 - d) run
 - e) back

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Midterm 2 Review Quiz

- Top 5 most "difficult" questions:
 - Rank 1: Question 4 (81.2% wrong answers)
- In the gdb debugger, which commands allow you to run your program step by step? (Check all that apply! 2 pts.)
- a) step
 - b) cont
- C) next
 - d) run
 - e) back

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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 $s[4] = {\text{"A", "B", "C"}};$
- c) char $s[3] = {`A', `B', `C'};$
- d) char s[] = "ABC";
- e) char s[] = 'ABC';

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

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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 that contains a loop.
 - 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!)
 - a) A function that does not terminate.
- b) A function that calls itself.
 - c) A function that contains a loop.
-) A function £ that calls a function g which calls £.
 - e) A function that returns no value.

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Quiz: Question 3

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

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

- c) 3 2 1 0
- d) 4 3 2 1
- e) 3 2 1

```
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?

```
perform a vector addition of v1 and v2?

struct v {int x, y;} v1, v2, v3;

a) v3 = v1 + v2;

b) v3 = v1[x]*v2[y] + v1[y]*v2[x]

c) v3[0] = v1[0] + v2[0];
 v3[1] = v1[1] + v2[1];

d) v3.x = v1.x + v2.x;
 v3.y = v1.y + v2.y;

e) v3->x = v1->x + v2->x;
 v3->y = v1->y + v2->y;
```

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 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?

```
perform a vector addition of v1 and v2?

struct v {int x, y;} v1, v2, v3;

a) v3 = v1 + v2;
b) v3 = v1[x]*v2[y] + v1[y]*v2[x]
c) v3[0] = v1[0] + v2[0];
v3[1] = v1[1] + v2[1];
d) v3.x = v1.x + v2.x;
v3.y = v1.y + v2.y;
e) v3->x = v1->x + v2->x;
v3->y = v1->y + v2->y;

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```

Quiz: Question 5

 Given the following enumerator definition, what is printed by printf("%d", two);?

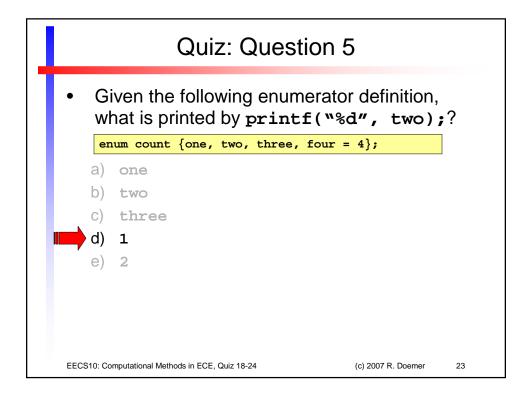
```
enum count {one, two, three, four = 4};
```

- a) one
- b) two
- c) three
- d) 1
- e) 2

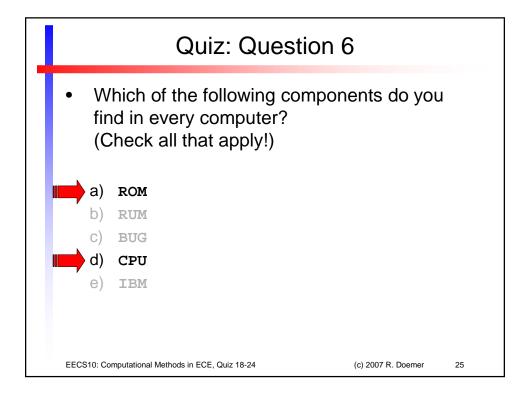
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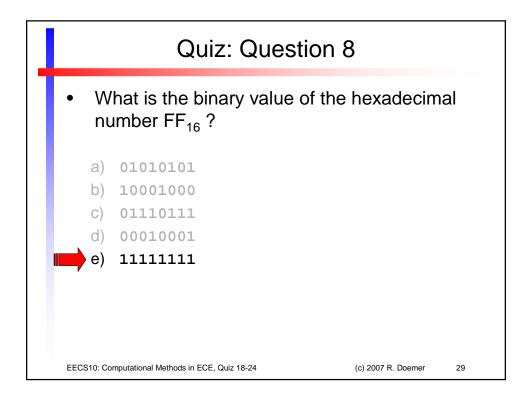
Quiz: Question 6 Which of the following components do you find in every computer? (Check all that apply!) a) ROM b) RUM c) BUG d) CPU e) IBM EECS10: Computational Methods in ECE, Quiz 18-24 (c) 2007 R. Doemer 24



Quiz: Question 7 What is the decimal value of the (unsigned) binary number 01010101₂? a) 01010101 b) 85 c) 101 d) 170 e) 255 EECS10: Computational Methods in ECE, Quiz 18-24 (c) 2007 R. Doemer 26

Quiz: Question 7 What is the decimal value of the (unsigned) binary number 01010101₂? a) 01010101 b) 85 c) 101 d) 170 e) 255 EECS10: Computational Methods in ECE, Quiz 18-24 (c) 2007 R. Doemer 27

Quiz: Question 8 What is the binary value of the hexadecimal number FF₁₆? a) 01010101 b) 10001000 c) 01110111 d) 00010001 e) 11111111



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Quiz: Question 9 • How many bits do you need to represent one hexadecimal digit? a) 1 b) 2 c) 4 d) 8 e) 16 EECS10: Computational Methods in ECE, Quiz 18-24 (c) 2007 R. Doemer 31

Quiz: Question 10

- 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.
 - 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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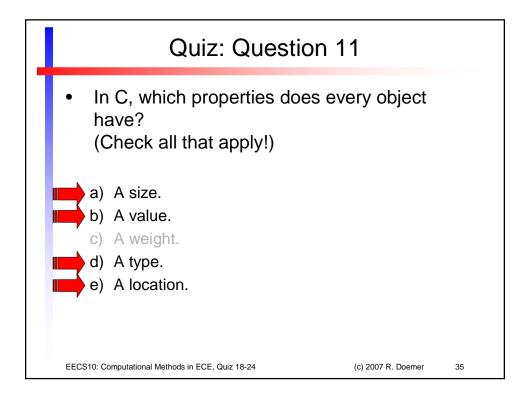
Quiz: Question 11

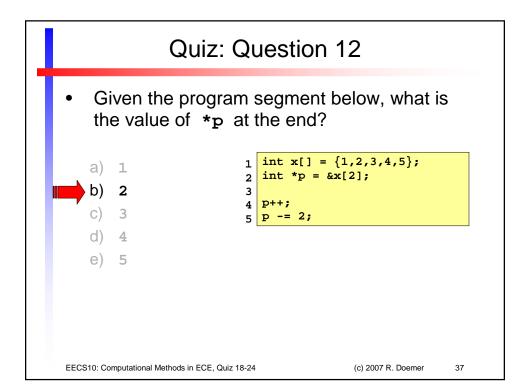
- In C, which properties does every object have?
 (Check all that apply!)
 - a) A size.
 - b) A value.
 - c) A weight.
 - d) A type.
 - e) A location.

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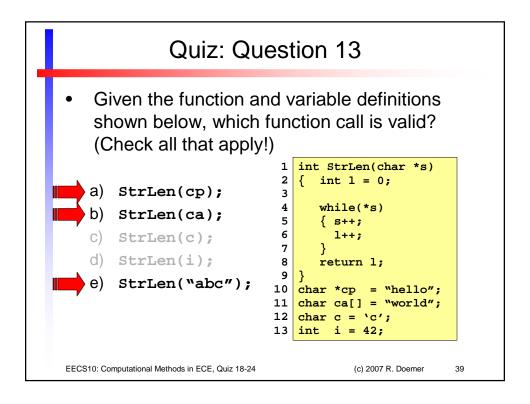
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```
Quiz: Question 13
   Given the function and variable definitions
   shown below, which function call is valid?
   (Check all that apply!)
                            1 int StrLen(char *s)
                            2 { int 1 = 0;
   a) StrLen(cp);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



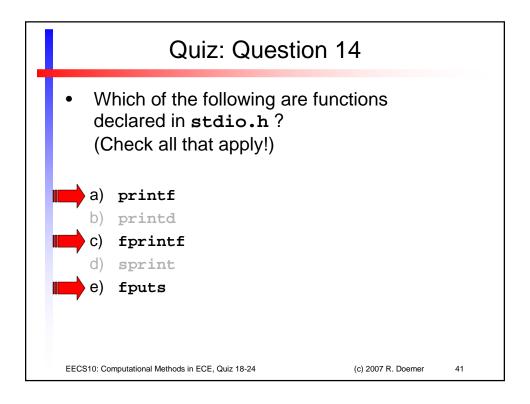
Quiz: Question 14 Which of the following are functions declared in stdio.h? (Check all that apply!) a) printf b) printd c) fprintf d) sprint e) fputs

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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 Holidays and Good Luck
- c) Happy Luck and Good Holidays
- d) Good Holidays and Happy Luck
- e) Good Luck and Happy Holidays

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Quiz: Question 15 What does the following code segment print? char s[] = "Hppe!Mvdl!boe!Ibqqz!Ipmjebzt"; char *p; p = &s[0]; while(*p) f printf("%c", *p - 1); p++; } a) Hppe!Mvdl!boe!Ibqqz!Ipmjebzt b) Happy Holidays and Good Luck c) Happy Luck and Good Holidays d) Good Holidays and Happy Luck

e) Good Luck and Happy Holidays

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