EECS 10: Computational Methods in Electrical and Computer Engineering Quiz on Lectures 9-18

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Midterm 1 Review Quiz

- Top 5 most "difficult" questions:
 - Rank 5: Question 11 (54.4% incorrect answers)
- Which of the following expressions yield a result type of double?
 (Check all that apply! 2 pts.)
 - a) 5 * 100000
 - b) 5 * 100.00
 - c) (int)5.3 > 3.0
 - d) 10 / 3
 - e) 5.0 / 5

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2

- Top 5 most "difficult" questions:
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- b) 5 * 100.00
 - c) (int)5.3 > 3.0
 - d) 10 / 3
- e) 5.0 / 5

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3

Midterm 1 Review Quiz

- Top 5 most "difficult" questions:
 - Rank 4: Question 9 (60.0% incorrect answers)
- What is output by the following C statement? (1 pt.)

```
printf("%d + %d + %d", 1, 2, 1+2);
```

- a) 1 + 2 + 1 + 2
- b) %d + %d + %d, 1, 2, 1+2
- C) 6
- d) %1 + %2 + %3
- e) 1 + 2 + 3

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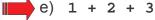
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4

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```

- a) 1 + 2 + 1 + 2
- b) %d + %d + %d, 1, 2, 1+2
- c) 6
- d) %1 + %2 + %3



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5

Midterm 1 Review Quiz

- Top 5 most "difficult" questions:
 - Rank 3: Question 15 (62.4% incorrect answers)
- What is the output of the following C program fragment (1 pt.)

```
int i1 = 5, i2 = 2, i;

float f1 = 5, f2 = 2, f;

i = i1 / i2;

f = (int)(f1 / f2);

printf("i = %d, f = %f", i, f);
```

- a) i = 2, f = 2
- b) i = 1, f = 2
- c) i = 2, f = 2.00000
- d) i = 2.00000, f = 2.50000
- e) i = 2, f = 2.50000

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6

- Top 5 most "difficult" questions:
 - Rank 3: Question 15 (62.4% incorrect answers)
- What is the output of the following C program

```
fragment (1 pt.)
                     int i1 = 5, i2 = 2, i;
                     float f1 = 5, f2 = 2, f;
                     i = i1 / i2;
                     f = (int)(f1 / f2);
                     printf("i = %d, f = %f", i, f);
```

- a) i = 2, f = 2
- b) i = 1, f = 2
- i = 2, f = 2.00000
 - i = 2.00000, f = 2.50000
 - i = 2, f = 2.50000

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Midterm 1 Review Quiz

- Top 5 most "difficult" questions:
 - Rank 2: Question 21 (72.0% incorrect answers)
- Consider the following C program fragment regarding systolic blood pressure (line numbers are not part of the code):
- required in order to have HighNormal printed when

9 if (x < 90){ printf("Low"); }

1 int x;

2 scanf("%d", &x);

{ printf("High"); }

3 if (x >= 140)

5 if (x >= 120)

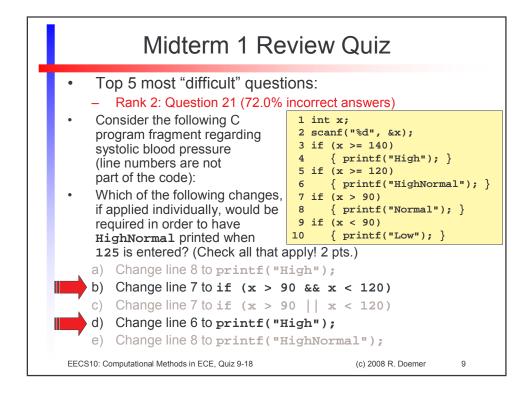
125 is entered? (Check all that apply! 2 pts.)

- a) Change line 8 to printf("High");
- b) Change line 7 to if (x > 90 && x < 120)
- c) Change line 7 to if $(x > 90 \mid | x < 120)$
- d) Change line 6 to printf("High");
- e) Change line 8 to printf("HighNormal");

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8



- Top 5 most "difficult" questions:
 - Rank 1: Question 12 (73.6% incorrect answers)
- What is the result of the following expression? (1 pt.)

```
!((4 - 5%4) < 5 && (7/6 > 4))
```

- a) true
- b) false
- c) 1
- d) (
- e) invalid expression

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10

- Top 5 most "difficult" questions:
 - Rank 1: Question 12 (73.6% incorrect answers)
- What is the result of the following expression?
 (1 pt.)

```
!((4 - 5\%4) < 5 \&\& (7/6 > 4))
```

- a) true
- b) false
- c) 1
 - d) o
- e) invalid expression

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11

Quiz: Question 1

- Which of the following expressions would be treated as a true condition when used with an if statement?
 - (Check all that apply!)
 - a) (int)5.99 > 5
 - b) 1 || 0 && 1
 - c) 5 >= 5
 - d) (1 + 2 + 3) == (3 << 2 >> 1)
 - e) 5 5

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12

6

 Which of the following expressions would be treated as a true condition when used with an if statement?

(Check all that apply!)

```
a) (int)5.99 > 5
b) 1 || 0 && 1
c) 5 >= 5
```

d) (1 + 2 + 3) == (3 << 2 >> 1)

e) 5 - 5

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13

Quiz: Question 2

 If cnt is an integer counter that counts upwards in steps of 1, how could one update the value of cnt? (Check all that apply!)

```
a) cnt += 1;
b) cnt = cnt + 1;
c) ++cnt;
```

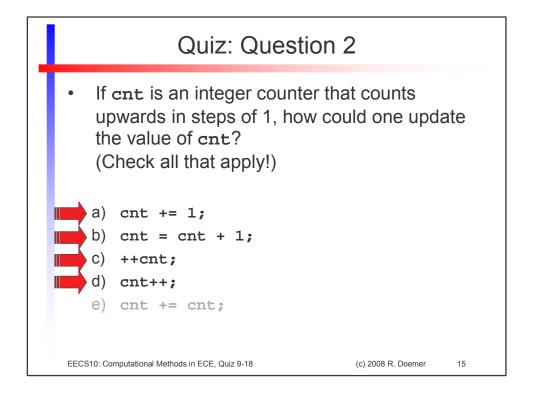
d) cnt++;

e) cnt += cnt;

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14



 What is the value of x after the following code fragment is executed?

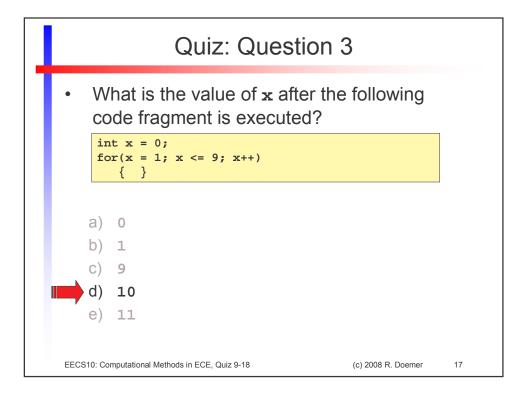
```
int x = 0;
for(x = 1; x <= 9; x++)
{ }</pre>
```

- a) 0
- b) 1
- c) 9
- d) 10
- e) 11

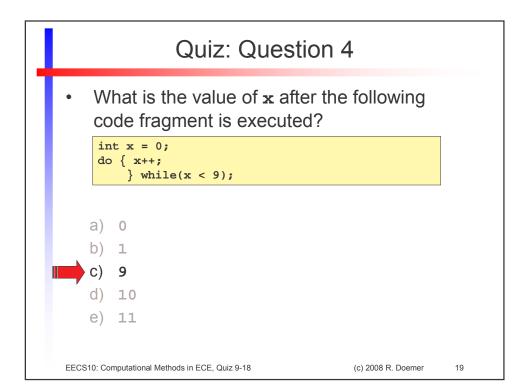
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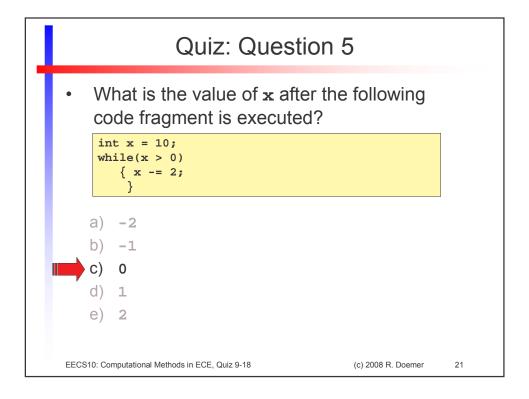
16



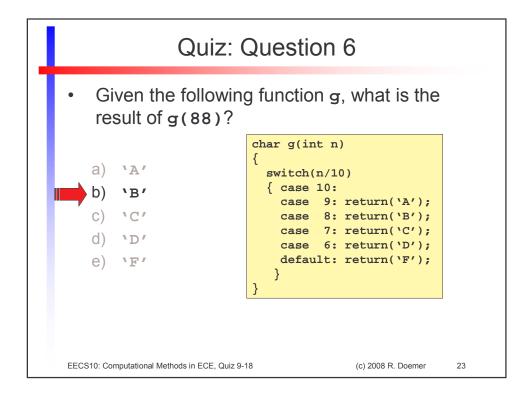
Quiz: Question 4 What is the value of x after the following code fragment is executed? int x = 0; do { x++; } while(x < 9); a) 0 b) 1 c) 9 d) 10 e) 11 EECS10: Computational Methods in ECE, Quiz 9-18 (c) 2008 R. Doemer 18



Quiz: Question 5 What is the value of x after the following code fragment is executed? int x = 10;while(x > 0) $\{ x -= 2;$ a) -2 -1 0 d) 1 e) 2 EECS10: Computational Methods in ECE, Quiz 9-18 (c) 2008 R. Doemer 20



```
Quiz: Question 6
    Given the following function g, what is the
   result of g(88)?
                           char g(int n)
       \A'
   a)
                             switch(n/10)
                             { case 10:
       'B'
   b)
                               case 9: return('A');
       'C'
                               case 8: return('B');
                              case 7: return('C');
       'D'
                              case 6: return('D');
                              default: return('F');
       \F'
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                                                        22
```



```
Quiz: Question 7
What is output by the following C statement?

printf("x = %03d", 3 + 4);
a) x = 034
b) x = 037
c) x = 007
d) x = 7
e) x = 347

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```

What is output by the following C statement?

printf("x = %03d", 3 + 4);

- a) x = 034
- b) x = 037
- C) $\mathbf{x} = 007$
 - $d) \mathbf{x} = 7$
- e) x = 347

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25

Quiz: Question 8

- In the gdb debugger, what does next do?
 - a) It moves to the next argument of the function.
 - b) It calls the next function in the program.
 - c) It executes the next statement in the program.
 - d) It prints the value of the next variable.
 - e) It loads the next program into the debugger.

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26

- In the gdb debugger, what does next do?
 - a) It moves to the next argument of the function.
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 - e) It loads the next program into the debugger.

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27

Quiz: Question 9

 Given the following code fragment, which of the following statements are true?

(Check all that apply!)

- a) Function f is declared.
- b) Function g calls function £
- c) Variable z is a local variable of function g
- void g(int x, int y)
 {
 int z;

 z = f(x) + 2*y;
 return z;
 }

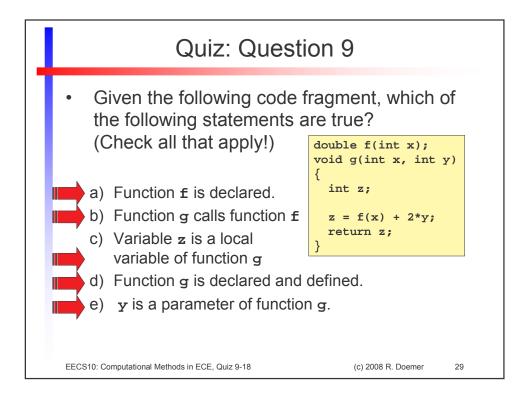
double f(int x);

- d) Function g is declared and defined.
- e) y is a parameter of function g.

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28



 Given that the C standard math library is included, which of the following expressions results in the value 4.0? (Check all that apply!)

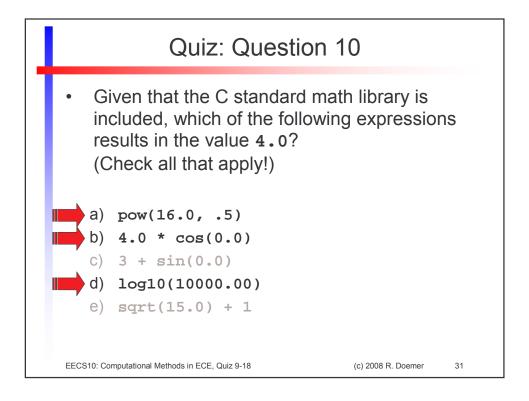
```
a) pow(16.0, .5)
```

- b) 4.0 * cos(0.0)
- c) $3 + \sin(0.0)$
- d) log10(10000.00)
- e) sqrt(15.0) + 1

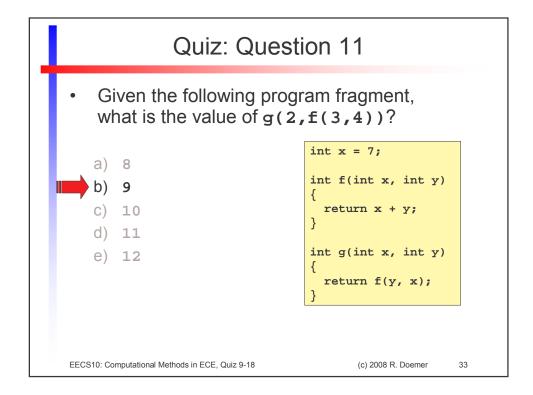
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30



```
Quiz: Question 11
    Given the following program fragment,
   what is the value of g(2,f(3,4))?
                                  int x = 7;
   a) 8
                                  int f(int x, int y)
   b) 9
                                    return x + y;
       10
       11
                                  int g(int x, int y)
       12
                                    return f(y, x);
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                                                        32
```



What is output by the following program fragment?

```
a) EECS00 1
```

b) EEC 10 0

C) E E

d) EECS C

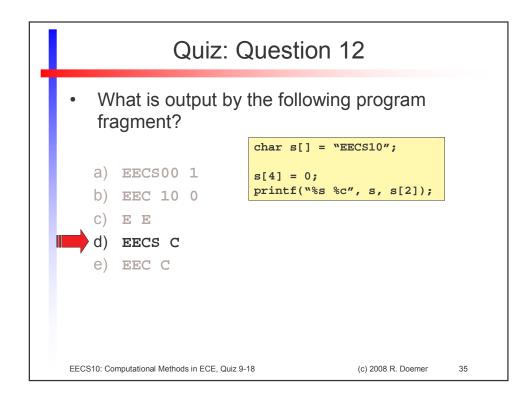
e) **EEC** C

```
char s[] = "EECS10";
s[4] = 0;
printf("%s %c", s, s[2]);
```

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34



Given the definition double p=0.0125;
 which of the following C statements will print out p = 1.25%?
 (Check all that apply!)

```
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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36

Quiz: Question 13 • Given the definition double p=0.0125; which of the following C statements will print out p = 1.25% ? (Check all that apply!) 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, "%%");

Quiz: Question 14

- Which of the following statements is true for an algorithm? (Check all that apply!)
 - 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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38

- Which of the following statements is true for an algorithm? (Check all that apply!)
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39

Quiz: Question 15

 Which of the following declarations can be added to the program in line 8 without creating a compilation error?

(Check all that apply!)

```
int x = 2;
int f(int v, double w);
int g(int x, int y)
{ int z;
    z = 2*x + 5*y - 42;
    return z;
}

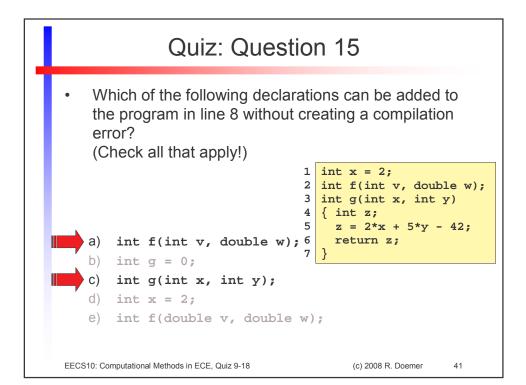
b) int g = 0;
```

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

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40



- 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 int issorted(int L[10])
   b) i=0; i<10; i++
                                 { int i;
   c) i=0; i<9; i++
                              3
                                   for( Box1 )
                                   { if(L[i] >= L[i+1])
   d) i=10; i>0; i--
                               5
                                      { Box2; }
       i=9; i>=0; i--
                               6
                               7
                                   Box3;
                               8
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                                                        42
```

- 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++
b) i=0; i<10; i++
c) i=0; i<9; i++
d) i=10; i>0; i--
e) i=9; i>=0; i--
6
```

```
int issorted(int L[10])
{ int i;
  for( Box1 )
  { if(L[i] >= L[i+1])
      { Box2; }
  }
  Box3;
}
```

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Quiz: Question 17

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

```
int issorted(int L[10])
{ int i;
  for( Box1 )
  { if(L[i] >= L[i+1])
      { Box2; }
  }
  Box3;
}
```

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44

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

```
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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15

Quiz: Question 18

- 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

```
int issorted(int L[10])
{ int i;
  for( Box1 )
  { if(L[i] >= L[i+1])
      { Box2; }
  }
  Box3;
}
```

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46

- 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
 - return 1
 - continue
 - break
 - return

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

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Quiz: Question 19

Consider the following program fragment:

```
unsigned int x=0, y=0;
scanf("%d", &x);
while((x>>=1) != 0)
   {y += 1;}
printf("%d", y);
```

- When running the program, which of the following is correct? (Check all that apply!)
 - a) If the user enters 6, it will print 2.
 - b) If the user enters 6, it will print 3.
 - c) If the user enters 4, it will print 2.
 - d) If the user enters 4, it will print 1.
 - e) If the user enters 4, it will print 4.

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48

Consider the following program fragment:

```
unsigned int x=0, y=0;
scanf("%d", &x);
while((x>>=1) != 0)
    {y += 1;}
printf("%d", y);
```

- When running the program, which of the following is correct? (Check all that apply!)
- a) If the user enters 6, it will print 2.b) If the user enters 6, it will print 3.
 - c) If the user enters 4, it will print 2.
 - d) If the user enters 4, it will print 1.
 - e) If the user enters 4, it will print 4.

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49

Quiz: Question 20

Consider the following program fragment:

```
unsigned int x=0, y=0;
scanf("%d", &x);
while((x>>=1) != 0)
    {y += 1;}
printf("%d", y);
```

- Which of the following statements are true about the program? (Check all that apply!)
 - a) y will be the integer part of $log_2(x)$
 - b) y will be equal to x
 - c) It computes the product of \mathbf{x} and \mathbf{y}
 - d) It sets y to the sum of x and y
 - e) The condition in line 3 is equivalent to (x/=2)!=0

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50

Consider the following program fragment:

- Which of the following statements are true about the program? (Check all that apply!)
- \Rightarrow a) \mathbf{y} will be the integer part of $\log_2(x)$
 - b) y will be equal to x
 - c) It computes the product of x and y
 - d) It sets y to the sum of x and y
- e) The condition in line 3 is equivalent to (x/=2)!=0

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51