

EECS 10: Computational Methods in Electrical and Computer Engineering

Quiz on Lectures 1-8

Rainer Dömer

doemer@uci.edu


The Henry Samueli School of Engineering
Electrical Engineering and Computer Science
University of California, Irvine

Quiz: Question 1

- Which Unix command shows you the contents of the current directory?
 - a) `pwd`
 - b) `ls`
 - c) `dir`
 - d) `list`
 - e) `cd`

Quiz: Question 1

- Which Unix command shows you the contents of the current directory?

- a) `pwd`
-  b) `ls`
- c) `dir`
- d) `list`
- e) `cd`

Quiz: Question 2

- Which of the following Unix commands renames file "text1" into "homework1"?

- a) `ren text1 homework1`
- b) `mv text1 homework1`
- c) `rm text1 homework1`
- d) `rm homework1 text1`
- e) `ren homework1 text1`

Quiz: Question 2

- Which of the following Unix commands renames file “text1” into “homework1”?

a) `ren text1 homework1`

 b) `mv text1 homework1`

c) `rm text1 homework1`


d) `rm homework1 text1`

e) `ren homework1 text1`

Quiz: Question 3

- What is C *not*?
 - a structured programming language
 - a compiled programming language
 - a high-level programming language
 - a portable programming language
 - a object-oriented programming language

Quiz: Question 3

- What is C *not*?
 - a) a structured programming language
 - b) a compiled programming language
 - c) a high-level programming language
 - d) a portable programming language
 -  e) a object-oriented programming language

EECS10: Computational Methods in ECE, Quiz 1-8

(c) 2006 R. Doemer

7

Quiz: Question 4

- What is the meaning of the following code fragment?

```
/* printf("C programming is great!\n") */
```

- a) it prints "C programming is boring!"
- b) it is the main function of the C program
- c) it is a comment ignored by the compiler
- d) it prints "C programming is great!"
- e) it is a syntax error because a semicolon is missing after the `printf()` statement

EECS10: Computational Methods in ECE, Quiz 1-8


(c) 2006 R. Doemer

8

Quiz: Question 4

- What is the meaning of the following code fragment?

```
/* printf("C programming is great!\n") */
```

- a) it prints "C programming is boring!"
- b) it is the main function of the C program
-  c) it is a comment ignored by the compiler
- d) it prints "C programming is great!"
- e) it is a syntax error because a semicolon is missing after the `printf()` statement

Quiz: Question 5

- What is *not* true about of the following compiler call?


```
% gcc -Wall -ansi HelloWorld.c -o HelloWorld
```

- a) the GNU C Compiler is called to generate an executable program called `HelloWorld`
- b) the compiler will print warning and/or error messages about any non-ANSI compliance in the code
- c) the compiler will read the file `HelloWorld.c`
- d) the compiler will ignore all warnings
- e) the compiler will assume that `HelloWorld.c` is an ANSI-compliant C program

Quiz: Question 5

- What is *not* true about of the following compiler call?

```
% gcc -Wall -ansi HelloWorld.c -o HelloWorld
```

- a) the GNU C Compiler is called to generate an executable program called `HelloWorld`
- b) the compiler will print warning and/or error messages about any non-ANSI compliance in the code
- c) the compiler will read the file `HelloWorld.c`
-  d) the compiler will ignore all warnings
- e) the compiler will assume that `HelloWorld.c` is an ANSI-compliant C program

Quiz: Question 6

- Which of the following constructs is a valid arithmetic operator in C?
(Check all that apply!)

- a) `*`
- b) `<`
- c) `#`
- d) `<<`
- e) `-`

Quiz: Question 6

- Which of the following constructs is a valid arithmetic operator in C?
(Check all that apply!)

- a) *
- b) <
- c) #
- d) <<
- e) -

EECS10: Computational Methods in ECE, Quiz 1-8

(c) 2006 R. Doemer

13

Quiz: Question 7

- What is the value of the integer `x` after the following statement?

```
x = 8 / 2 - 11 % 3;
```

- a) 0
- b) 42
- c) -2
- d) 5
- e) 2

EECS10: Computational Methods in ECE, Quiz 1-8


(c) 2006 R. Doemer

14

Quiz: Question 7

- What is the value of the integer x after the following statement?

```
x = 8 / 2 - 11 % 3;
```

- a) 0
- b) 42
- c) -2
- d) 5
-  e) 2

Quiz: Question 8

- What is the value of the integer x after the following statement?


```
x = (-10 - (3 - (20 - -10)));
```

- a) -7
- b) 17
- c) 27
- d) 37
- e) 77

Quiz: Question 8

- What is the value of the integer `x` after the following statement?

```
x = (-10 - (3 - (20 - -10)));
```

- a) -7
-  b) 17
- c) 27
- d) 37
- e) 77


Quiz: Question 9

- Which of the following format strings will print a `long int` value in decimal format when used with `printf()`?

- a) `"%d"`
- b) `"%ld"`
- c) `'%ld'`
- d) `'%li'`
- e) `"%lu"`

Quiz: Question 9

- Which of the following format strings will print a `long int` value in decimal format when used with `printf()`?

- a) `"%d"`
-  b) `"%ld"`
- c) `'%ld'`
- d) `'%li'`
- e) `"%lu"`


Quiz: Question 10

- Which of the following statements will correctly read a decimal value from `stdin` into a variable `x` of type `unsigned int`?

- a) `stdin("%x", &u);`
- b) `scanf("%d", &x);`
- c) `scanf("%u", &x);`
- d) `stdin("%u", x);`
- e) `scanf("%d", x);`

Quiz: Question 10

- Which of the following statements will correctly read a decimal value from `stdin` into a variable `x` of type `unsigned int`?

- a) `stdin("%x", &u);`
- b) `scanf("%d", &x);`
-  c) `scanf("%u", &x);`
- d) `stdin("%u", x);`
- e) `scanf("%d", x);`

Quiz: Question 11

- What is the value of the integer `x` after the following statement?


```
x = 2 << 8 >> 2;
```

- a) 256
- b) **Syntax Error!**
- c) 128
- d) 512
- e) 2000000

Quiz: Question 11

- What is the value of the integer `x` after the following statement?

```
x = 2 << 8 >> 2;
```

- a) 256
- b) Syntax Error!
-  c) 128
- d) 512
- e) 20000000

Quiz: Question 12

- Which of the following constants is of type `double`?
(Check all that apply!)

- a) 42
- b) 4.2
- c) 4e2
- d) 4E2
- e) 42f

Quiz: Question 12

- Which of the following constants is of type **double**?
(Check all that apply!)

a) 42

b) 4.2

c) 4e2

d) 4E2

e) 42f

Quiz: Question 13

- What is the result type of the following expression?

```
1 - 23 * (4.5f / 67L) - (short)89
```

a) **short int**

b) **int**

c) **long int**


d) **float**

e) **double**

Quiz: Question 13

- What is the result type of the following expression?

```
1 - 23 * (4.5f / 67L) - (short)89
```

- a) `short int`
- b) `int`
- c) `long int`
-  d) `float`
- e) `double`

Quiz: Question 14

- What is the value of `x` after the following code segment?

```
int    i = 10;  
double d = 0.5;  
long   x;  
  
x = i/3.0 + d;
```


- a) 3.333333
- b) 3
- c) 3.833333
- d) 0.333333
- e) 3.5

Quiz: Question 14

- What is the value of x after the following code segment?

```
int    i = 10;
double d = 0.5;
long   x;

x = i/3.0 + d;
```

- a) 3.333333
-  b) 3
- c) 3.833333
- d) 0.333333
- e) 3.5

Quiz: Question 15

- Given the following code fragment,

```
double x;
double y;

x = (int)(y + 0.5);
```

which of the following statements is true?
(Check all that apply!)

- a) for $y=3.0$, x is set to 3.5
- b) for $y=3.0$, x is set to 3.0
- c) for $y=3.2$, x is set to 3.0
- d) for $y=3.9$, x is set to 3.0
- e) for $y=3.9$, x is set to 4.0

Quiz: Question 15

- Given the following code fragment,

```
double x;  
double y;  
  
x = (int)(y + 0.5);
```


which of the following statements is true?
(Check all that apply!)

- a) for $y=3.0$, x is set to 3.5
- b) for $y=3.0$, x is set to 3.0
- c) for $y=3.2$, x is set to 3.0
- d) for $y=3.9$, x is set to 3.0
- e) for $y=3.9$, x is set to 4.0

Quiz: Question 16

- Today's computers run at which clock speed?
 - a) 85 MPH
 - b) 10 kHz
 - c) 1 ms
 - d) 1 GHz
 - e) 1 MHz

Quiz: Question 16

- Today's computers run at which clock speed?
 - a) 85 MPH
 - b) 10 kHz
 - c) 1 ms
 -  d) 1 GHz
 - e) 1 MHz

Quiz: Question 17

- Which of the following constructs are valid type names in C? (Check all that apply!)
 - a) `short char`
 - b) `signed float`
 - c) `short integer`
 - d) `unsigned long long int`
 - e) `long double`

Quiz: Question 17

- Which of the following constructs are valid type names in C? (Check all that apply!)
 - a) `short char`
 - b) `signed float`
 - c) `short integer`
 - d) `unsigned long long int`
 - e) `long double`

EECS10: Computational Methods in ECE, Quiz 1-8

(c) 2006 R. Doemer

35

Quiz: Question 18

- Assume `i` is a variable of type `int` and `d` is a variable of type `double`. Which statement is true for the following assignment? (Check all that apply!)

```
i = (int)d;
```

- a) The precision of `i` is doubled.
- b) The assignment is invalid: syntax error!
- c) The parentheses should go around `d`.
- d) The value in `d` is converted to an integer value and then assigned to `i`.
- e) Any fractional part in `d` is truncated off.

EECS10: Computational Methods in ECE, Quiz 1-8

(c) 2006 R. Doemer

36

Quiz: Question 18

- Assume `i` is a variable of type `int` and `d` is a variable of type `double`. Which statement is true for the following assignment? (Check all that apply!)

```
i = (int)d;
```

- a) The precision of `i` is doubled.
- b) The assignment is invalid: syntax error!
- c) The parentheses should go around `d`.
- d) The value in `d` is converted to an integer value and then assigned to `i`.
- e) Any fractional part in `d` is truncated off.

Quiz: Question 19

- Which of the following expressions correctly computes the polynomial $p = 2x^2 - 3x + 5$? (Check all that apply!)

- a) `p = 2x^2 - 3x + 5;`
- b) `p = x*2*x - 3*x + 5.0;`
- c) `p = 2/x - 5 * (3*x);`
- d) `p = 2*(x*x + 3)*x + 5;`
- e) `p = (2*x - 3)*x + 2 + 3;`

Quiz: Question 19

- Which of the following expressions correctly computes the polynomial $p = 2x^2 - 3x + 5$?
(Check all that apply!)

a) `p = 2x^2 - 3x + 5;`

b) `p = x*2*x - 3*x + 5.0;`

c) `p = 2/x - 5 * (3*x);`

d) `p = 2*(x*x + 3)*x + 5;`

e) `p = (2*x - 3)*x + 2 + 3;`

Quiz: Question 20

- Which of the following names are valid keywords in C? (Check all that apply!)

a) `if`

b) `then`

c) `case`

d) `main`

e) `Short`

Quiz: Question 20

- Which of the following names are valid keywords in C? (Check all that apply!)

- a) `if`
- b) `then`
- c) `case`
- d) `main`
- e) `Short`

Quiz: Question 21

- Which of the following names are valid identifiers in C? (Check all that apply!)

- a) `x5`
- b) `xy`
- c) `if`
- d) `My_Long_Variable_Name`
- e) `2cool4you`

Quiz: Question 21

- Which of the following names are valid identifiers in C? (Check all that apply!)

- a) `x5`
- b) `xy`
- c) `if`
- d) `My_Long_Variable_Name`
- e) `2cool4you`

Quiz: Question 22

- What is the result of the evaluation of the following expression?


```
6 == 5 || 4 > 3 && 2 > -1
```

- a) `true`
- b) `false`
- c) `1`
- d) `0`
- e) `boolean`

Quiz: Question 22

- What is the result of the evaluation of the following expression?

```
6 == 5 || 4 > 3 && 2 > -1
```

- a) true
- b) false
-  c) 1
- d) 0
- e) boolean

Quiz: Question 23

- What is the result of the evaluation of the following expression?


```
33 < 33 ? 33 : 33 - 33
```

- a) 33
- b) -33
- c) 1
- d) 0
- e) 6

Quiz: Question 23

- What is the result of the evaluation of the following expression?

```
33 < 33 ? 33 : 33 - 33
```

- a) 33
- b) -33
- c) 1
-  d) 0
- e) 6

Quiz: Question 24

- If integer $x = 2$ at the beginning, what is the value of x after the following statement?


```
x += x - 1;
```

- a) 1
- b) 2
- c) 3
- d) 4
- e) 5

Quiz: Question 24

- If integer $x = 2$ at the beginning, what is the value of x after the following statement?

```
x += x - 1;
```

- a) 1
- b) 2
-  c) 3
- d) 4
- e) 5

Quiz: Question 25

- Assuming that x is a variable of type `int`, which values of x satisfy the following condition?

```
x % 2 == 0
```


- a) no value
- b) any value
- c) any value between 1 and 2
- d) any odd value
- e) any even value

Quiz: Question 25

- Assuming that x is a variable of type `int`, which values of x satisfy the following condition?

```
x % 2 == 0
```

- a) no value
- b) any value
- c) any value between 1 and 2
- d) any odd value

 e) any even value

Quiz: Question 26

- Assume that x is an integer in the range of 1 through 10 inclusively. Which of the following expressions can be used as a test for x being an even number?

(Check all that apply! 2 pts.)

- a) `x==2 || x==4 || x==6 || x==8 || x==10`
- b) `x % 2 == 0`
- c) `x / 2 > 1`
- d) `x % 2 == 1`
- e) `x / 2 * 2 == x`

Quiz: Question 26

- Assume that x is an integer in the range of 1 through 10 inclusively. Which of the following expressions can be used as a test for x being an even number?

(Check all that apply! 2 pts.)

- a) $x==2 \ || \ x==4 \ || \ x==6 \ || \ x==8 \ || \ x==10$
- b) $x \% 2 == 0$
- c) $x / 2 > 1$
- d) $x \% 2 == 1$
- e) $x / 2 * 2 == x$

Quiz: Question 27

- Given the following program fragment, what is printed when it gets executed?

- a) nothing
- b) 2
- c) 20
- d) 30
- e) **syntax error**

```
int i = 0;
int s = 0;
while (1)
{
    i++;
    if (i > 10)
        { break; }
    if (i % 2 == 1)
        { continue; }
    s += i;
}
printf("%d", s);
```

Quiz: Question 27

- Given the following program fragment, what is printed when it gets executed?

- a) nothing
- b) 2
- c) 20
- d) 30
- e) syntax error

```
int i = 0;
int s = 0;
while (1)
{
    i++;
    if (i > 10)
    {
        break;
    }
    if (i % 2 == 1)
    {
        continue;
    }
    s += i;
}
printf("%d", s);
```

Quiz: Question 28

- Which of the following variable declarations is valid in ANSI-C?
(Check all that apply! 2 pts.)
- a) `int x;`
 - b) `int x, y, z;`
 - c) `int x = 1.0;`
 - d) `int x = 1, y = 2, z = 3;`
 - e) `int xyz = 1,2,3;`

Quiz: Question 28

- Which of the following variable declarations is valid in ANSI-C?

(Check all that apply! 2 pts.)


- a) `int x;`
- b) `int x, y, z;`
- c) `int x = 1.0;`
- d) `int x = 1, y = 2, z = 3;`
- e) `int xyz = 1,2,3;`

Quiz: Question 29

- Which of the following data types has the largest range of representable numbers?

- a) `short int`
- b) `int`
- c) `unsigned int`
- d) `char`
- e) `long long`

Quiz: Question 29

- Which of the following data types has the largest range of representable numbers?
 - a) `short int`
 - b) `int`
 - c) `unsigned int`
 - d) `char`
 -  e) `long long`

EECS10: Computational Methods in ECE, Quiz 1-8

(c) 2006 R. Doemer

59

Quiz: Question 30


- Which of the following data types can store the largest value?
 - a) `int`
 - b) `float`
 - c) `long long int`
 - d) `double`
 - e) `unsigned long long int`

EECS10: Computational Methods in ECE, Quiz 1-8

(c) 2006 R. Doemer

60

Quiz: Question 30

- Which of the following data types can store the largest value?
 - a) `int`
 - b) `float`
 - c) `long long int`
 -  d) **`double`**
 - e) `unsigned long long int`