EECS 10: Computational Methods in Electrical and Computer Engineering

Quiz on Lectures 1-8

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
The Henry Samueli School of Engineering
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Quiz: Question 1

- Which Unix command shows you the path to the current directory?

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

Quiz: Question 1

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

Quiz: Question 2

- Which of the following Unix commands renames file "text1" into "homework1"?
  a) `ren text1 homework1`
  b) `ren homework1 text1`
  c) `rm text1 homework1`
  d) `mv homework1 text1`
  e) `mv text1 homework1`

Quiz: Question 2

- Which of the following Unix commands renames file "text1" into "homework1"?
  a) `ren text1 homework1`
  b) `ren homework1 text1`
  c) `rm text1 homework1`
  d) `mv homework1 text1`
  e) **`mv text1 homework1`**

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Quiz: Question 3

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

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Quiz: Question 3

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

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

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

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Quiz: Question 5

- What is true about of the following compiler call? (Check all that apply!)

```
% gcc HelloWorld.c –Wall –ansi –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 ignore all warnings
  d) the compiler will read the file `HelloWorld.c`
  e) the compiler will overwrite the `HelloWorld` file if it already exists

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Quiz: Question 5

- What is true about of the following compiler call? (Check all that apply!)

  ```
  % gcc HelloWorld.c -Wall -ansi -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 ignore all warnings

  d) the compiler will read the file `HelloWorld.c`

  e) the compiler will overwrite the `HelloWorld` file if it already exists

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Quiz: Question 6

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

  a) `/`

  b) `%`

  c) `!`

  d) `@`

  e) `>>`

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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 7

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

```
x = 11 / 3 + 11 % 3;
```

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

Quiz: Question 7

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

```
x = 11 / 3 + 11 % 3;
```

a) 1
b) 2
c) 3
d) 4
➡ e) 5

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 an **unsigned int** value in decimal format when used with **printf()**?

a) **"%u"**

b) **"%ud"**

c) **"%d"**

d) **"%lu"**

e) **"%ui"**

Quiz: Question 9

- Which of the following format strings will print an **unsigned int** value in decimal format when used with **printf()**?

    a) **"%u"**
    b) "%ud"
    c) "%d"
    d) "%lu"
    e) "%ui"

Quiz: Question 10

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

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

Quiz: Question 10

- Which of the following statements will correctly read a decimal value from **stdin** into a variable **x** of type **signed int**?
  a) `stdin("%x", &u);`
  b) `stdin("%u", x);`
  c) `scanf("%d", &x);`
  d) `scanf("&x", %u);`
  e) `scanf("&x", %d);`

Quiz: Question 11

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

```
x = 3 << 2 >> 1;
```

  a) `Syntax Error!`
  b) `3`
  c) `6`
  d) `12`
  e) `321`

Quiz: Question 11

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

```
x = 3 << 2 >> 1;
```

a) Syntax Error!
b) 3
➡ c) 6
d) 12
e) 321

Quiz: Question 12

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

a) **42**
b) **.42**
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) `.42`
  - c) `4e2`
  - d) `4E2`
  - e) `42f`

Quiz: Question 13

- What is the result type of the following expression?

  `-1 + 2.3f * (4.5 / 67f) - (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 + 2.3f * (4.5 / 67f) - (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;
double x;

x = i/3 + d;
```

a) 0.333333
b) 3.0
c) 3.333333
d) 3.5
e) 3.833333

Quiz: Question 14

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

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

x = i/3 + d;
```

a) 0.333333

b) 3.0

c) 3.333333

➡ d) **3.5**

e) 3.833333

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=5.0**, **x** is set to **5.0**

b) for **y=5.1**, **x** is set to **5.0**

c) for **y=5.49**, **x** is set to **5.0**

d) for **y=5.5**, **x** is set to **6.0**

e) for **y=5.95**, **x** is set to **6.0**

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=5.0**, **x** is set to **5.0**
  b) for **y=5.1**, **x** is set to **5.0**
  c) for **y=5.49**, **x** is set to **5.0**
  d) for **y=5.5**, **x** is set to **6.0**
  e) for **y=5.95**, **x** is set to **6.0**

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Quiz: Question 16

- Today's computers run at which clock speed?

  a) 85 MPH
  b) 1 kHz
  c) 1 ms
  d) 1 GHz
  e) 1 MHz

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Quiz: Question 16

- Today's computers run at which clock speed?
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  c) 1 ms
  → d) 1 GHz
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Quiz: Question 17

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

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Quiz: Question 17

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

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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 comparison checks whether `d` is an integer.
  b) The precision of `i` is doubled.
  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.

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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 comparison checks whether **d** is an integer.
  b) The precision of **i** is doubled.
  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.

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Quiz: Question 19

- Which of the following expressions correctly computes the polynomial $p = 2\,x^2 - 3x + 4$?
  (Check all that apply!)

  a) `p = 2x^2 - 3x + 4;`
  b) `p = 2xx - 3x + 4;`
  c) `p = x*x*2 - 3*x + 4.0;`
  d) `p = 2*(x*x + 3)*x + 4;`
  e) `p = (2*x - 3)*x + 4;`

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Quiz: Question 19

- Which of the following expressions correctly computes the polynomial $p = 2 x^2 - 3x + 4$? (Check all that apply!)

  a) `p = 2x^2 - 3x + 4;`
  b) `p = 2xx - 3x + 4;`
  c) `p = x*x*2 - 3*x + 4.0;`
  d) `p = 2*(x*x + 3)*x + 4;`
  e) `p = (2*x - 3)*x + 4;`

Quiz: Question 20

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

  a) **if**
  b) **when**
  c) **void**
  d) **main**
  e) **Int**

Quiz: Question 20

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

  a) **if**
  b) when
  c) **void**
  d) main
  e) Int

Quiz: Question 21

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

  a) **xyz**
  b) **IBM**
  c) **dollar amount**
  d) **My_Very_Long_Variable_Name**
  e) **2fast4you**

Quiz: Question 21

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

a) **xyz**
b) **IBM**
c) dollar amount
d) **My_Very_Long_Variable_Name**
e) 2fast4you

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Quiz: Question 22

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

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

a) **123456**
b) **true**
c) **false**
d) **1**
e) **0**

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Quiz: Question 22

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

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

  a) `123456`
  b) `true`
  c) `false`
  d) `1`
  e) `0`

Quiz: Question 23

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

  `17 < 42 ? 17 : 42`

  a) `1742`
  b) `17`
  c) `42`
  d) `true`
  e) `false`

Quiz: Question 23

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

```
17 < 42 ? 17 : 42
```

a) 1742
b) 17
c) 42
d) true
e) false

Quiz: Question 24

- For integer `x = 1` at the beginning, what is the value of x after the following statement?

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

a) 0
b) 1
c) 2
d) 3
e) 4

Quiz: Question 24

- For integer **x = 1** at the beginning, what is the value of x after the following statement?

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

a) 0
b) 1
c) 2
d) **3**
e) 4

Quiz: Question 25

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

```
x % 2 == 1
```

a) no value
b) any value
c) any value less than **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 == 1
  ```

  a) no value
  b) any value
  c) any value less than **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 == 0`
  b) `x / 2 > 1`
  c) `x % 2 == 1`
  d) `x / 2 * 2 == x`
  e) `x==2 || x==4 || x==6 || x==8 || x==10`

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

Quiz: Question 27

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

  a) nothing
  b) `0`
  c) `10`
  d) `20`
  e) `30`

```
int i = 1;
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) 0
  c) 10
  → d) **20**
  e) 30

```
int i = 1;
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) `double xyz;`
  b) `double x, y, z;`
  c) `double x = 1.0;`
  d) `double x = 1.1, y = 2.2, z = 3.3;`
  e) `double x,y,z = 1.0,2.0,3.0;`

Quiz: Question 28

- Which of the following variable declarations is valid in ANSI-C?
  (Check all that apply! 2 pts.)
  a) `double xyz;`
  b) `double x, y, z;`
  c) `double x = 1.0;`
  d) `double x = 1.1, y = 2.2, z = 3.3;`
  e) `double x,y,z = 1.0,2.0,3.0;`

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Quiz: Question 29

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

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
Quiz: Question 29

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

Quiz: Question 30

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

Quiz: Question 30

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