

Test #2
COMP 206
March 14 or 16, 2019
45 Minute Test

Theory Section

Multiple choice questions

1. Select the one answer that applies: Who is Denis Ritchie?
 - a. The inventor of the UNIX operating system
 - b. The inventor of the C programming language
 - c. The inventor of the Bash programming language
 - d. The programmer who developed Space Racer
2. Select the one answer that applies: what is the difference between a compiler and an interpreter?
 - a. Interpreted code communicates directly with the CPU, while compiled code uses an intermediate program.
 - b. Bash, Python and Java are examples of compiled programs.
 - c. An interpreter converts source code into machine language. A compiler runs the source code within the compiler.
 - d. A compiler converts source code into machine language. An interpreter runs the source code within the interpreter.
3. Select all that apply: what are the parts of a processes?
 - a. Load Code
 - b. Run-time stack
 - c. Source Code (in binary)
 - d. Static Data
 - e. Heap
 - f. Library Code
4. Select the one answer that applies: What can we not do with a string?
 - a. You cannot scanf with a string.
 - b. You cannot make a string's reference point to another string
 - c. You cannot use the equal to compare to string pointers.
 - d. All of the answers cannot be done.

5. Select all that apply: which of the following are the standard streams in C?
- a. The file stream
 - b. The error stream
 - c. The console stream
 - d. The output stream
 - e. The input stream
6. Select the one answer that applies: what does the pre-processor do?
- a. C does not have a pre-processor.
 - b. The OS needs to pre-process your program by looking at the loader information to make sure the computer has the resources to run your program.
 - c. It converts a .c file into an .i file based on the hash-tag directives.
 - d. It verifies the syntax of your program before sending to the compiler.

Syntax Section

Multiple Choice

1. What is the answer for this:
- ```
int x = 5;
if (6 == x++) printf("Yes");
printf("No");
```
- a. Yes
  - b. Syntax error
  - c. YesNo
  - d. No
2. What does this do?
- ```
gcc -c file1.c file2.c
```
- a. It creates two object files file1.o and file2.o
 - b. This is a syntax error
 - c. This creates an a.out file from two object files.
 - d. This creates a single object file by combining both .c files
3. What does the following code mean?
- ```
typedef int boolean;
int true=1, false=0;
boolean isValid = false;
```
- a. int isValid = false;
  - b. It is a syntax error.
  - c. Boolean isValid = 0;
  - d. int isValid = 0;

4. What is printed out?

```
printf("%d", ((5<10) ? 5 : 10));
```

- a. 15
- b. 5
- c. 10
- d. Syntax error

5. Assuming we have:

```
struct STUDENT {int age; float gpa; };
struct NODE {struct STUDENT s; struct NODE *next;};
struct NODE *p = (struct NODE *) malloc(sizeof(struct NODE));
```

How do we do the following:

Access the value in the variable age, which is within s and pointed to by p?

- a. p->s->age
- b. p.s.age
- c. p->s.age
- d. It cannot be done in one statement

6. Does the following condition evaluate to true or false?

```
if ("bob" == "bob")
```

- a. True
- b. False
- c. Syntax error

## C Programming Section

### Programming Question

Write the solution program in the C programming language for the following problem, in the space provided:

The textfile people.csv is a csv file with the following format: name,age,gender

Write a C program that displays the contents of people.csv to the screen formatted in columns without the presence of commas.

For example:

bob,10.M

mary,11,F

displays as:

|     |    |   |
|-----|----|---|
| bob | 10 | M |
|-----|----|---|

|      |    |   |
|------|----|---|
| mary | 11 | F |
|------|----|---|