ROBT 305 – Embedded Systems Quiz #2

Session 1

Collect 5 out of 6 points. Please provide precise answers.
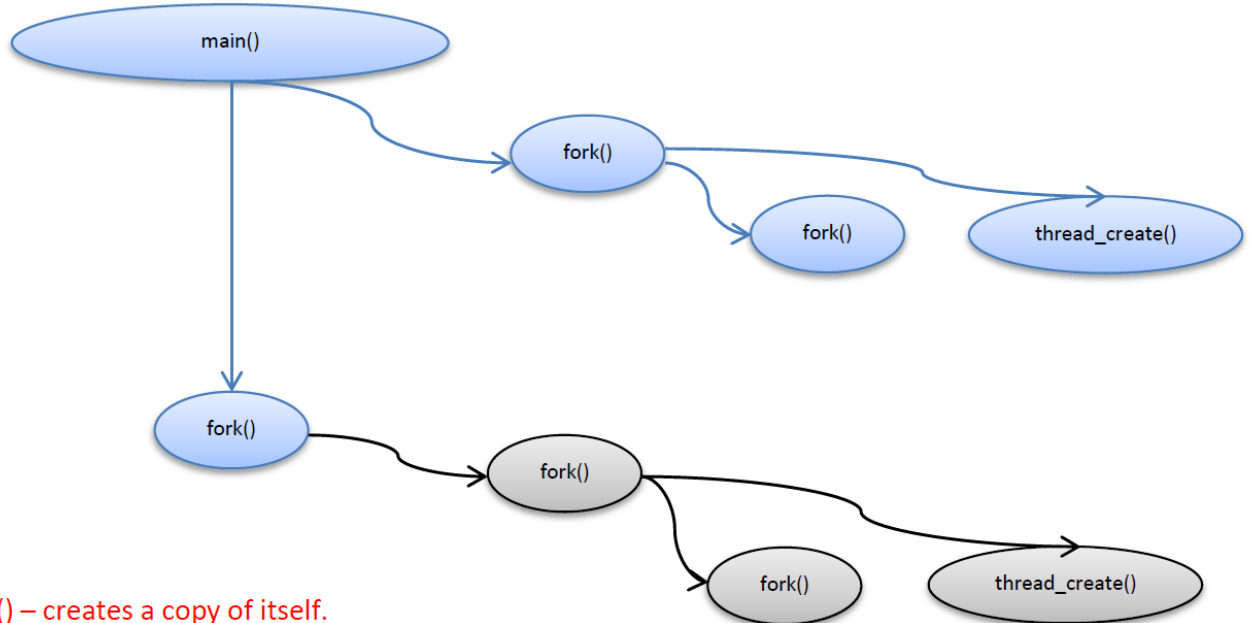
1. Consider the following code segment:

```
pid_t pid;

pid = fork();
if (pid == 0) { /* child process */
    fork();
    thread_create( . . .);
}
fork();
```

a. How many unique processes are created? **(1 point)**
b. How many unique threads are created?   **(1 point)**

a. 6 unique processes
b. 2 unique threads

fork() – creates a copy of itself.

2. A race condition **_B___** **(1 point)**

A) results when several threads try to access the same data concurrently

B) **results when several threads try to access and modify the same data concurrently**

C) will result only if the outcome of execution does not depend on the order in which instructions are executed

D) None of the above

3. What is the correct order of operations for protecting a critical section using a mutex? **(1 point)**

A) release() followed by acquire()

B) **acquire() followed by release()**

C) wait() followed by signal()

D) signal() followed by wait()

4. Insert one or more semaphores (for appropriate functions, check question 4) to satisfy the condition: Print B before printing F **(2 point)**

PI	P2
print(A);	print(E);
print(B);	print(F);
print(C);	print(G);

S1 = 0

P1:	P2:
Print(A);	Print(E);
Print(B);	Wait(S1);
Signal(S1);	Print(F);
Print(C)	Print(G);