CS 24000 - Programming In C

Week 13: Continue Week 11 slides
Quiz 9

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Quiz 9 #1

• What numbers will be printed to the stdout?
• (a) 0 0
• (b) 0 1
• (c) 1 1
• (d) Depends on the timing
• (e) None of the above

```c
#include <unistd.h>
/* etc */
int global_v=0;
// suppose fork() succeeds
int main( )
{
    pid_t child_PID;
    int local_v = 0;
    child_PID = fork();
    if(child_PID == 0) {
        printf("%d \t%d\n", global_v, local_v);
    } else {
        global_v = 1;
        local_v = 1;
    }
    return 0;
}
```
• Answer (a) 0 0
#include <unistd.h>
#include <unistd.h>
/* etc */

// suppose fork() succeeds
int main( )
{
    pid_t child_PID;
    child_PID = fork();

    if(child_PID == 0)
        while (1) {}
    else {
        return 0;
    }

• Which of the following claims is true?
• (a) both processes will be unable to stop because there is an infinite loop
• (b) the parent process will terminate, but not the child process
• (c) both process will terminate because the parent process terminates
• (d) none of the above
Answer

• (b) the parent process will terminate, but not the child process
Quiz 9 #3

#include ....... // omitted
// suppose fork() succeeds
int main( ) {
    int i;
    pid_t child_PID;
    FILE *fp;
    fp = fopen("somefile", w+);
    // assume open succeeds
    child_PID = fork();

    • Which of the following claims is correct?
    • (a) the fscanf() call is guaranteed to read the first number in "somefile" written by the parent process
    • (b) the fscanf() call is guaranteed to read the last number in "somefile" written by the parent process
    • (c) the fscanf() call is guaranteed to find it reaches the end of "somefile"
    • (d) it all depends on how both processes are scheduled and interrupted

if(child_PID == 0) {
    rewind(fp);
    fscanf(fp, "%d", &i);
    for (i=0; i<10000000; i++)
        fprintf(fp, "%d", i);
}
else {
    return 0;
}
Answer

- (d) It depends on the scheduling and interrupts