CS350 Operating Systems

In-Class Problems: forkprint

Here is a threaded program:

```
main() {
   helper(NULL,0);
}

void
helper(void *p, unsigned long i) {  /* parameter p is not used */
  if (i < 3) {
     kprintf("%ld",i); /* print the value of i */
     thread_fork("helper1",NULL,helper,NULL,i+1); /* fork thread to run helper(NULL,i+1) */
     thread_fork("helper2",NULL,helper,NULL,i+1); /* fork thread to run helper(NULL,i+1) */
  }
  if (i==0) {
     kprintf("%ld",i);
  }
  thread_exit();
}
```

Which of the following outputs could possibly be generated by this program?

a. 01221220

b. 01120222

c. 01342560

d. 01222120

e. 01122220

f. 01234560

g. 01212220

h. 00112222