

Jawaban Soal Ujian Sistem Operasi 2010-2015 (2010-1) Fork dan (2011-1) Fork

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<https://rms46.vLSM.org/2/232.pdf>

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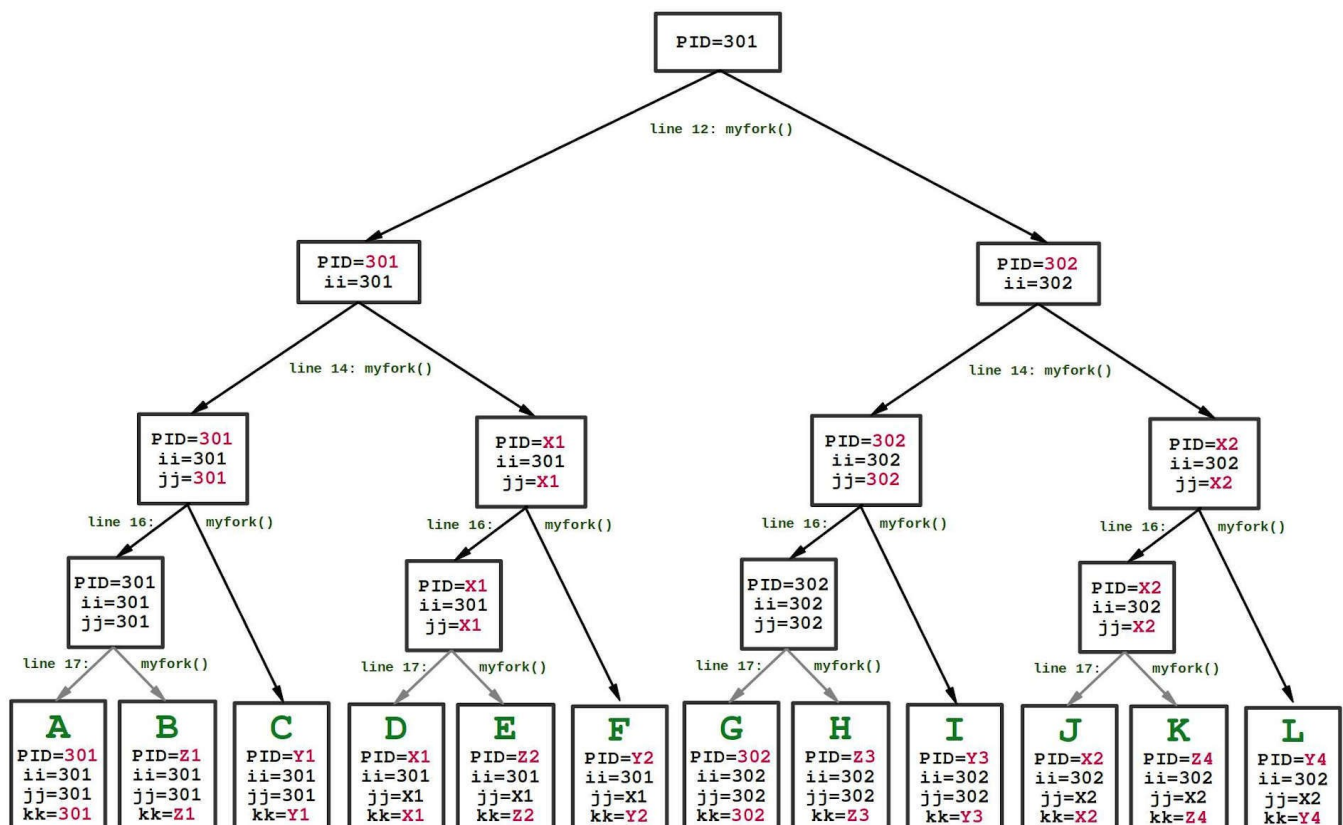
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(2010-1) Fork

Lengkapi kotak serta pohon (*tree*) hasil kompilasi program "fork2010.c" (PID=301) berikut ini:

```

001 #include <sys/types.h>
002 #include <sys/wait.h>
003 #include <stdio.h>
004 #include <unistd.h>
005
026 int my_fork(void) {
027     int ii;
028     sleep(1);
029     ii=(int) fork();
030     sleep(1);
031     return ii;
032 }
008 main(void)
009 {
010     int ii, jj, kk;
011
012     my_fork();
013     ii = (int) getpid();
014     my_fork();
015     jj = (int) getpid();
016     if (my_fork() > 0)
017         my_fork();
018     kk = (int) getpid();
019     printf ("ii = %3.3d -- jj = %3.3d -- kk = %3.3d\n",ii,jj,kk);
020     wait(NULL);
021     wait(NULL);
022     wait(NULL);
023     wait(NULL);
024 }
    
```



	ii	jj	kk
A	301	301	301
B	301	301	Z1
C	301	301	Y1
D	301	X1	X1
E	301	X1	Z2
F	301	X1	Y2
G	302	302	302
H	302	302	Z3
I	302	302	y3
J	302	X2	X2
K	302	X2	Z4
L	302	X2	Y4

$\{X1, X2\} = \{303, 304\}$
 $\{Y1, Y2, Y3, Y4\} = \{305, 306, 307, 308\}$
 $\{Z1, Z2, Z3, Z3\} = \{309, 310, 311, 312\}$

	ii	jj	kk
A	301	301	301
G	302	302	302
J	302	303	303
D	301	304	304
F	301	304	305
L	302	303	306
I	302	302	307
C	301	301	308
B	301	301	309
E	301	304	310
K	302	303	311
H	302	302	312

Berapakah kisaran dari ii, jj, dan kk?

$$301 \leq ii \leq 302$$

$$301 \leq jj \leq 304$$

$$301 \leq kk \leq 312$$

$$ii \leq jj \leq kk$$

(2011-1) Fork

Perhatikan program C di bawah ini. Isilah kotak-kotak kosong berikut ini.

```

001 #include <stdio.h>
002 #include <sys/types.h>
003 #include <unistd.h>
004
005 pid_t fork_2sec() {
006     pid_t tmp;
007     sleep(1);
008     tmp = fork();
009     sleep(1);
010     return tmp;
011 }
012
013 main(){
014     int ii, jj, kk, ll;
015     ii = jj = kk = ll = (int) getpid();
016     printf("  ii    jj    kk    ll\n");
017     printf("=====");
018     fork_2sec();
019     jj = (int) getpid();
020     fork_2sec();
021     kk = (int) getpid();
022     fork_2sec();
023     ll = (int) getpid();
024     printf("[%3.3d] [%3.3d] [%3.3d] [%3.3d]\n", ii,jj,kk,ll);
025     wait(NULL); wait(NULL); wait(NULL);
026 }

```



	ii	jj	kk	ll
A	500	500	500	500
B	500	500	500	Y1
C	500	500	X1	X1
D	500	500	X1	Y2
E	500	501	501	501
F	500	501	501	Y3
G	500	501	X2	X2
H	500	501	X2	Y4

$\{X1, X2\} = \{502, 503\}$
 $\{Y1, Y2, Y3, Y4\} = \{504, 505, 506, 507\}$

	ii	jj	kk	ll
A	500	500	500	500
E	500	501	501	501
G	500	501	502	502
C	500	500	503	503
D	500	500	503	504
H	500	501	502	505
F	500	501	501	506
B	500	500	500	507