

Operating System Exam Preparation

- Question Solution
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- Assignment & CT Question Solution

Resources: https://drive.google.com/drive/folders/15gq-qAjUjGZS9__UMdeoUWU0Rdppgte?usp=sharing

Question 2017

Question#1:

a) **Operating System (OS)** is a system software which manages computer resources (hardware, software) and provides an environment where application software can run in order to full-fill users' demands.

Service Of OS: Slide-1 (Function of OS)

b) PCB : Slide-2 (Intro Process) c) Kernel: the one program running at all times on the computer.

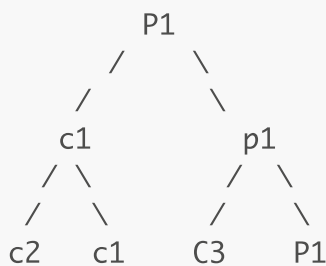
Question#2:

a, c, d Solutions are in Slide - 2

b) Added Soon

Question#3:

a. Solution



b. Solution

```
#include <stdio.h>
#include <unistd.h>

int main() {
    int a = 5;
    pid_t cid, mypid;
```

```

    mypid = getpid();
    cid = fork();

    if (cid == 0) {
        printf("My PID: %d and my parents pid = %d\n", mypid, getppid());
// different
        a = a - 5;
        printf("a = %d\n", a); // 0
    } else {
        printf("My PID: %d and my parents pid = %d\n", mypid, getppid());
// same
        a = a + 5;
        printf("a = %d\n", a); // 10
        while(1);
    }
}

```

1. Continue execute

My PID: 185778 and my parents pid = 185586 a = 10

My PID: 185778 and my parents pid = 185778 a = 0

2.

- a. Stop Execution - Same output
- b. Show output and wait : Orphan child, parent kill
- c. Stop execution - same output
- d. Continue Execution - same output

Question#4

b.

```

#include <stdio.h>
#include <unistd.h>
#include <sys/types.h>
#include <sys/wait.h>

int main() {
    int x = 5;
    printf("Hello %d\n", getpid());
    execlp("/bin/cat", "/bin/cat", "./Hi.c", NULL);
    printf("%d + 2 : %d\n", x, x + 2);
}

```

Output:

Output: Hello 186943

```
#include <stdio.h>
```

```
int main() {
```

```
    printf("I executing through child process.\n");
```

```
}
```