Assignment # 3
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BS(CS) – 4A

Code:

```c
#include <stdlib.h>
#include <unistd.h>
#include <stdio.h>
int main(int argc, char **argv)
{
    printf("my process ID is %d\n", getpid());
    printf("my parent's process ID is %d\n", getppid());
    exit(0);
}
```

Output:

```
ayyzenn@Saad-A:~/Desktop/assignment$ gcc getids.c -o getids.out
ayyzenn@Saad-A:~/Desktop/assignment$ ./getids.out
my process ID is 3720
my parent's process ID is 2773
ayyzenn@Saad-A:~/Desktop/assignment$
```

Code:

```c
/* fork: create a new process */
#include <stdlib.h> /* needed to define exit() */
#include <unistd.h> /* needed for fork() */
#include <sys/wait.h> /* needed for wait() */
#include <stdio.h> /* needed for printf() */
int main(int argc, char **argv)
{
    int pid; /* process ID */
    pid = fork();

    if (pid == -1)
    {
        perror("Error");
    }

    if (pid == 0)
    {
        printf("In child.\n");
        printf("Child ID: %d\n", getpid());
    }
    else
    {
        printf("In parent.\n");
        printf("Child ID: %d\n", getpid());
        printf("Parent ID: %d\n", getppid());
    }

    sleep(1);
    exit(0);
}
```

Output:

```
ayyzenn@Saad-A:~/Desktop/assignment$ gcc fork.c -o fork.out
ayyzenn@Saad-A:~/Desktop/assignment$ ./fork.out
In parent.
Child ID: 3889
Parent ID: 2773
In child.
Child ID: 3890
ayyzenn@Saad-A:~/Desktop/assignment$
```

Code:

```c
/* fork: create a new process */
#include <stdlib.h> /* needed to define exit() */
#include <unistd.h> /* needed for fork() */
#include <stdio.h> /* needed for printf() */
int main(int argc, char **argv)
{
    fork();
    fork();
    fork();
    sleep(10000);
    exit(0);
}
```

Output:

```
ayyzenn@Saad-A:~/Desktop/assignment$ ps aux | grep forkexample.out
ayyzenn      4103  0.0  0.0   2364   576 pts/0    T    12:01   0:00 ./forkexample.out
ayyzenn      4104  0.0  0.0   2364    72 pts/0    T    12:01   0:00 ./forkexample.out
ayyzenn      4105  0.0  0.0   2364    72 pts/0    T    12:01   0:00 ./forkexample.out
ayyzenn      4106  0.0  0.0   2364    72 pts/0    T    12:01   0:00 ./forkexample.out
ayyzenn      4107  0.0  0.0   2364    72 pts/0    T    12:01   0:00 ./forkexample.out
ayyzenn      4108  0.0  0.0   2364    72 pts/0    T    12:01   0:00 ./forkexample.out
ayyzenn      4109  0.0  0.0   2364    72 pts/0    T    12:01   0:00 ./forkexample.out
ayyzenn      4110  0.0  0.0   2364    72 pts/0    T    12:01   0:00 ./forkexample.out
ayyzenn      4123  0.0  0.0   9388  2324 pts/0    S+   12:01   0:00 grep --color=auto forkexample.out
ayyzenn@Saad-A:~/Desktop/assignment$
```