BLG312E - Operating Systems
Assignment 1

Question 1

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

int main() {
    int i, res, depth=5;
    for (i = 0; i < depth; i++) {
        res = fork();
        if (res == 0) {
         depth = depth - 1;
            while(depth > 0) {
                depth = depth - 1;
                res = fork();
                if(res != 0) {
                 wait(NULL);
                 exit(0);
                }
            }
            exit(0);
        }
    }
    wait(NULL);
    exit(0);
}
```

According to given code, answer following questions:

1. How many processes does this code create? How many of them can be identified as children?
2. Draw a tree that represents processes for this program.
3. Modify this code, so that it only creates 101 processes.
4. Modify this code, so that the youngest processes has a sibling(Their parents create one more process).

Submission Rules

- Submit a pdf report that explains the code and answers the questions to ninova.
- Report must not exceed 3 pages.
- Any form of plagiarism will not be tolerated. You must solve each question by yourself.
- Show all of your work in order to get full marks.