HW 1 Reference Solution

Note that this is a nonworking code. You need to add headers before compiling it. However, the essential implementation is included. This will be helpful for practicing your skills by actually typing your own code rather than copying the solution.

```c
#define is_even(N) ( ((N % 2) == 0) ? 1 : 0)

int main(int argc, char *argv[])
{
pid_t pid, pid1;
int n;

    if (argc == 1) {
        fprintf(stderr,"Usage: ./a.out <starting value>\n");

        return -1;
    }

    n = atoi(argv[1]);

    pid = fork();

    if (pid < 0) {
        fprintf(stderr, "Unable to fork child\n");

        return -1;
    }
```

```
27      else if (pid == 0) { /* child process */
28          printf("%d, ",n);
29          while (n != 1) {
30              if (is_even(n))
31                  n = n / 2;
32              else
33                  n = 3 * n + 1;
34              printf("%d, ",n);
35          }
36          printf("\n");
37          pid1 = getpid();
38          printf("child: pid=%d\n",pid);
39          printf("child: pid1=%d\n",pid1);
40      }
41      else { /* parent process */
42          wait(NULL);
43          pid1 = getpid();
44          printf("parent: pid=%d\n",pid);
45          printf("parent: pid1=%d\n",pid1);
46      }
47
48      return 0;
49  }
```