

Exercise 3-3: while statement

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■ even_list.c

- Create a program that displays all positive even numbers less than or equal to the input positive integer `a`.
- Example: Input: 13 → Output: "2 4 6 8 10 12"
- Implement using `while` statement

■ even_list_loop.c

- Modify `even_list.c` to create a program that allows you to repeatedly enter positive integers from the keyboard.
- Let the program terminate when entering a value of 0 (zero) or less.

(Note) If you cannot terminate the program, you can forcibly terminate it by pressing the ctrl key + 'c'.

even_list.c

After asking for input into `a`, we initialize the while loop starting from `n = 0` (because 0 is even), then print the numbers and keep adding 2 as long as it is smaller than or equal to `a`. Once it is larger than `a`, the `while` loop stops and the program ends.

```
#include <stdio.h>

int main() {
    int a = 0, n = 0;
    printf("Display even numbers up to: ");
    scanf("%d", &a);

    while (n <= a) {
        printf("%d\n", n);
        n+=2;
    }
    return 0;
}
```

even_list_loop.c

For `even_list_loop.c` we initialize `i = 1` because it needs to be a positive integer. We then start the while loop and tell it to keep running as long as `i>0`. Inside the loop we ask for user input and assign it into `i`. As the

iteration ends, the loop will first check if the condition is still fulfilled. If `i>0` is true, it will continue with the next iteration. If it is false, the program ends.

```
#include <stdio.h>

int main () {
    int i = 1;

    while (i>0) {
        printf("Enter a positive integer: ");
        scanf("%d", &i);
    }
    return 0;
}
```