

While True Loop - a loop will run continuously until an exit (break or return) is called - the intention is to loop forever until the programmer wants the loop to end

```
#include <cs50.h>
#include <stdio.h>
// an example of a While True Loop
// this will get a number from the user
// then print a countdown loop
// it is very similar to the While Loop but uses slightly
// different syntax to complete the task
// notice that the loop will always run (condition is true)
// and the programmer needs to end the loop with a particular statement
// such as a break or return

int main(void)
{
    // initialize variables
    int input_num = 0;

    // get a number from the user - limit the range
    printf("Enter a number from 1 to 10: \n");
    input_num = GetInt();

    // validate the number
    if (input_num < 1 || input_num > 10)
    {
        printf("Sorry, that number does not meet the requirements, goodbye!\n");
        return 1;
    }
    printf("You entered %i\n", input_num);

    printf("Countdown starting...\n");
    // keep looping until the input_num is 0 or less
    // using while(true)
    while (true)
    {
        if (input_num == 0)
        {
            // note that this time the last condition
            // will cause a message to print
            // and the while loop to end by adding a return statement
            printf("Blast Off Off!\n");
        }
    }
}
```

```
        return 0;
    }
    printf("Countdown: %d\n", input_num);
    --input_num;
}
}
```