Lab 3.4.21.1 Loops: for

Objectives

Familiarize the student with:

- Logic of loops: *for*
- Inverting logic of *for* loops
- Getting input from the user
- Printing characters on screen

Scenario

Write a program that asks for a number, and then prints twice as many lines as the user inputs. The first half of every other line contains one "*" character at the start, as many spaces as the number of this line (line numbers count from 0 in this task) and one "*" character at the end of the line. The second half is a mirror reflection of the first. It should look like an arrowhead. Your version of the program must print the same result as the expected output. To do this task, you should use two outer *for* loops and two inner *for* loops. You shouldn't use any special formatting in *printf* to print the spaces - just use the *for* loop. Two exceptions:

- When the user inputs a number less than 1, then the program doesn't write any line.
- When the user inputs a number greater than 20, then the program writes only forty lines.

```c
#include <stdio.h>

int main()
{
 /* your code */
 return 0;
}
```

Example input

3

Example output

```
**
* *
*  *
*  *
* *
**
```

Example input

9

Example output

```
**
*  *
*    *
*      *
*       *
*        *
*         *
*          *
*           *
*           *
*          *
*         *
*        *
*       *
*      *
*    *
*  *
**
```