DUE DATE: 13/12/2020 23:55

Part1. Write a complete program implementing a simple calculator program. The calculator should have the usual binary operators: addition (+), substraction (-), multiplication (*), division (/), power (**) and module (%). The users of the program enter the operation they want to carry out. For example, the following input

```
10 + 2
```

adds 10 and 2 returning 12. If the operator has only one argument, it takes the result of the previous operation as the first argument. If there is no previous operation (e.g., at the very beginning), 0 will be used.

An example run of the program follows:

```
10 + 2
12
8 ** 2
64
2 /
32
10 *
320
10 %
0
```

Another example run of the program follows:

```
10 +
10
8 -
2
```

You have to write a function for each operator like the prototypes given below. Additionaly you need to create a **menu** function. This will require you to define at least 7 functions in your code.

```
int add(number1, number2);
int sub(number1, number2);
int mult(number1, number2);
int div(number1, number2);
int power(number1, number2);
int module (number1, number2);
```

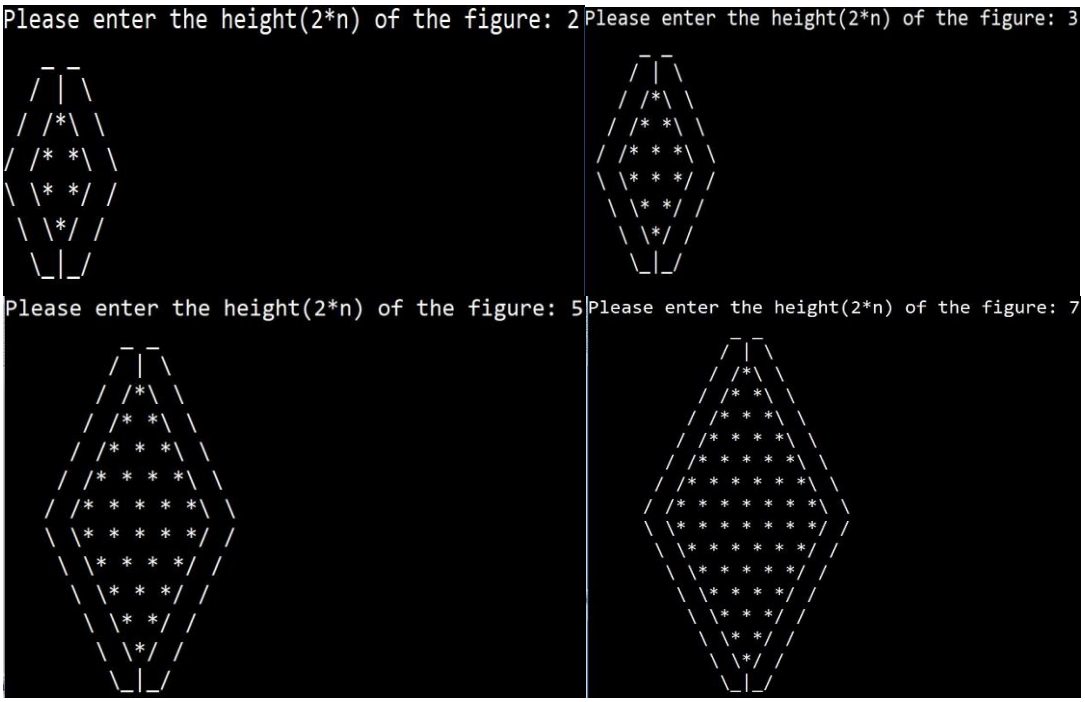
Part 2. In this part, you should take height of the diamond from user. For example user enters the height number x, will press * character twice. Then should add 1 times and 2 times until the

number of * will be x. A triangle must be created from the combination of stars, triangle should be surrounded by the shape of / , \ and _ characters. After the first triangle formed by expanding towards the bottom, the second triangle should be narrowing towards the bottom. You have to draw the shape using function,

void drawShape(int height);

Shapes must be look like that;

OUTPUT EXAMPLE:



General Rules:

1. Obey and don't broke the function prototypes that are shown on each part, otherwise, you will get zero from the related part.
2. Note that if any part of your program is not working as expected, then you can get zero from the related part, even it's working in some way.
3. Don't ask any part of assignment to anyone and do not share your code and ideas with anyone otherwise you will get 0 from assignment.
4. Write your own codes, do not take any code from any source.
5. Upload your .zip file(studentNumber.zip) on to UBS to deliver your homework. The zip file must consist of two source(.c) file that contains the code of your solutions for each part.
   Part1: studentNumber_part1.c
   Part2: studentNumber_part2.c
   DO NOT PUT OBJECT, EXE and PROJECT FILES into zip.
6. You can ask any question about the homework by sending an email to yunus.avci@yalova.edu.tr