## Instructions:

- You are to solve the following programs in the lab using the problem solving and algorithm methods and share the answer with your lecturer.
- Remember the following rules:
  - o Think before you program!
  - A program is a human-readable essay on problem solving that also happens to execute on a computer.
  - o The best way to improve your programming and problem skills is to practice!
  - o Test your code, often and thoroughly!
  - o If it was hard to write, it is probably hard to read.

## Notes:

- 1. Three steps that a program typically performs:
  - o Gather input data:
    - from keyboard
    - from files on disk drives
  - Process the input data
  - o Display the results as output:
    - send it to the screen
    - write to a file
- 2. The moment you read the problem; you should try to answer the following questions:



## Questions

Using the problem-solving techniques, solve the following problems:

- 1. Calculate area of rectangle.
- 2. Calculate employee income tax based on the following formula:

```
Tax = 0.25 * (monthly income * 11 - number of kids * 450)
```

Your program will display the name of the employee and amount of tax on the screen.

- 3. Receive an integer from the user, add 5 to it, double it, subtract 7 from it, and display the final number on the screen.
- 4. Calculate area and circumference of circle.
- 5. Calculate and print the average of three numbers: 20, 10, and 2.