Lab's Scope:

- **Nested If**
- **Switch-Case**
- **Nested loops**

Problem 1:

Movie theaters often give ticket discounts to children (anyone 12 and under) and seniors (anyone 65 and older). The discount is 50%. Write a program where the user enters his age, and the program should output the ticket price based on his age, assuming that the ticket price before the discount is 200 L.E.

Sample run 1:

```
Enter your age: 1010
Child Movie ticket price is 100 L.E.
```

Sample run 2:

```
Enter your age: 67
Senior Movie ticket price is 100 L.E.
```

Sample run 3:

```
Enter your age: 35
Movie ticket price is 200 L.E.
```

Problem 2:

In the National Football League, each player has a T-shirt number in specific ranges according to his position. Below is the table showing the players' positions, and the range of numbers that could be written on their T-shirts. Write a program where the user enters a T-shirt number, and the program outputs the player's position.

Player's position	T-shirt number ranges
Line Backer	40 to 59 or 90 to 99
Tight end	30 to 39 or 80 to 89
Defensive Lineman	20 to 29 or 60 to 79
Quarter Back	From 1 to 19

Sample run:

```
Enter player's t-shirt number: 25
The player's position is Defensive Lineman.
```

Problem 3:

Write a program where the user is asked to enter three numbers. The program then finds out the largest number among the three using nested If statements. Then the program displays the largest number with a proper message.

Problem 4 (Lecture exercise):

Write a program using switch-case statements to create a simple calculator. The user should enter a mathematical operator, then two numbers and the program should output the result of the mathematical equation.

Sample run:

```
Enter an operator (+,-,*,/):
+
Enter two numbers:
5
6
5 + 6 = 11
```

Problem 5:

In a supermarket, assume a user would buy 5 items in any order from the following products shown in the table below. Write a program where the user enters the 5 items as characters and the program calculates the total bill.

Product	User input	Price per item
Yogurt	'Y' or 'y'	5
Coffee	'C' or 'c'	200
Tea	'T' or 't'	30
Milk	'M' or 'm'	45

Sample run:

```
Enter 5 items:
Y
T
M
M
C
Total Bill = 325
```

Problem 6 (Lecture exercise):

Write a program that will output the triangle shown below:

Problem 7:

Update your program from exercise 6 to output alphabet letters instead of *, as shown below:

```
A B C D E
A B C D
A B C
A B
A
```

Problem 8:

Write a program that will output the triangle shown below:

```
Enter number of rows: 4
1
2 3
4 5 6
7 8 9 10
```