**JOBSHEET 6**

**Selection Part 2**



**Name**

Sherly Lutfi Azkiah Sulistyawati

**NIM**

2341720241

**Class**

1I

**Department**

Information Technology

**Study Program**

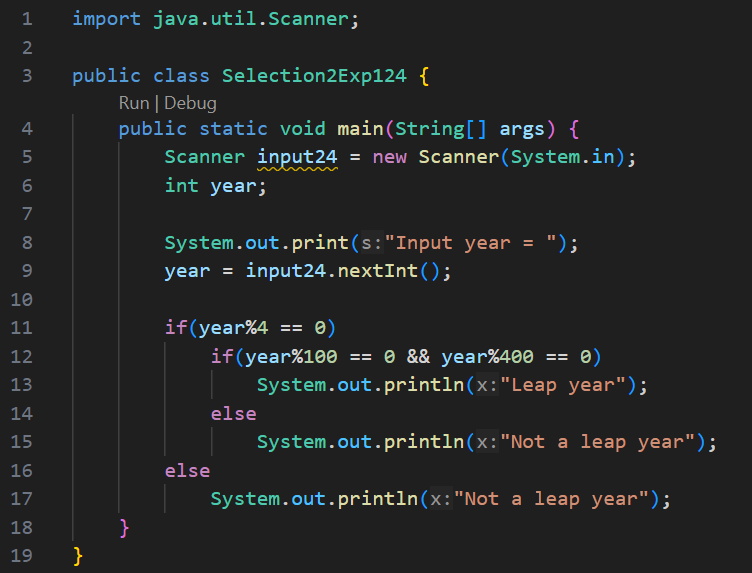
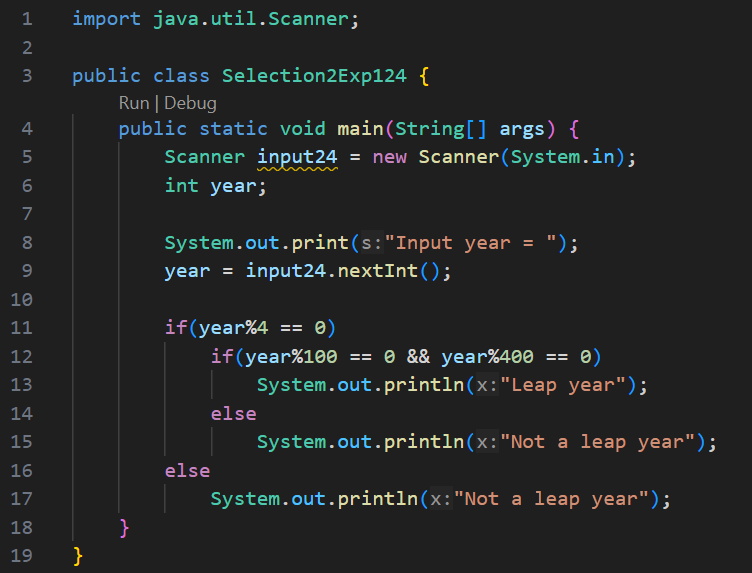
D4 Informatics Engineering

Labs Activity

**Question! (Experiment 1)**

1. What is the output if the input is 2100? Please explain your answer! How to ensure that output complies with regulations (2100 is not a leap year)?
2. Modify the program according to answer number 1!
3. Commit and push the changes into your repository!
4. The year 2000 is a multiple of 4 and a multiple of 100, but it is a leap year. So that, there is an additional rule to determine leap year. If the year is a multiple of 100 and is also a multiple of 400 then that year is a leap year. Modify the program to adjust to these rule! (Create the algorithm without using logical operators)
5. Commit and push the modifications to the repository!

**Answer!**

1. The output will be “Not a leap year”, but it would incorrectly indicate that it is a leap year. This is because the code only checks for divisibility by 4 and non-divisibility by 100, but it does not account for years that are divisible by both 100 and 400.
2. 
3. 

**Question! (Experiment 2)**

1. Modify the source code, so that it can detect the other types of triangles (equilateral triangle and isosceles triangle)
2. Commit and push the changes into your repository.

**Answer!**

1. The reason of display is “65” instead of the character 'A' is that explicitly cast bloodGroup to a byte before printing it. If we want to display the character 'A', we should simply print the bloodGroup variable without the cast. And why display “65” because the ASCII value of 'A' is 65.

**Question! (Experiment 3)**

1. Explain in your opinion what is the difference between **x++** and **++x**!
2. What is the result of int **z = x ^ y;** do the calculations manually (you can use a calculator)!

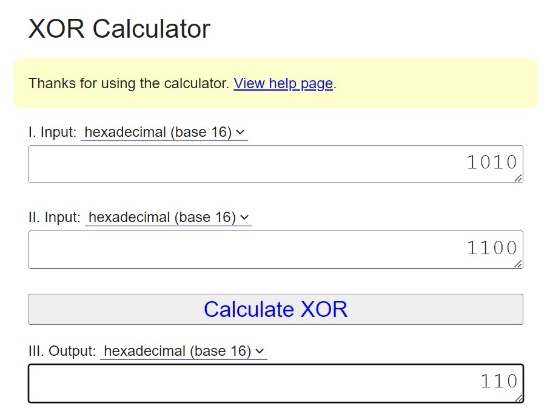
**Answer!**

1. In x++ the value of variable is printed first then it is incremented whereas in ++x the value is incremented first and then it is displayed.
2. x = 10, y = 12

x = 1010

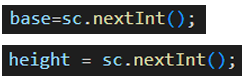
y = 1100

z = 0110 = 6



**Question! (Experiment 4)**

1. Explain why you have to declare Scanner in Experiment 4?
2. Explain the use of the program snippets below!



**Answer!**

1. We have to declaring and initializing the Scanner to read input from the user, and be able to interact with external data sources. Declaring and initializing a Scanner is a fundamental step in many programming tasks that involve user input or file input.
2. The program snippets base = sc.nextInt(); and height = sc.nextInt(); are used to read integer input values from the user or from some input source using a Scanner object in Java.

**Assignment**

1. Do assignments according to your group's final project topic!
2. Identify input, output, processes based on the scope of each group's final project topic. The processes identified are limited to processes that use arithmetic operators.
3. Identify variables and data types based on input, output, and process according to project topic based on 1a.
4. Implement questions a and b into Java program code so that it becomes a program that utilizes variables, data types, data input, arithmetic processes to display the expected output.

**Answer!**

1. a. Input = name, category, workHours, salaryPerHour, overtime

Output = basicSalary, bonus, salary

Process = input name -> input category -> input workHours -> input salaryPerHour -> input overtime -> calculate basicSalary -> calculate bonus -> calculate salary

b. String name

int category

int workHours

int salaryPerHour

int overtime

int tip = 20000

int basicSalary

int bonus

int salary

1. 