LAB#06 EXERCISES

INSTRUCTIONS:
NOTE: Violation of any of the following instructions may lead to the cancellation of your submission.

1) Create a folder and name it by your student id (k16-1234).
2) Paste the .c (Save as type) file for each question with the names such as Q1.c, Q2.c and so on into that folder.

LOOPS OR OTHER HIGHER LEVEL CONCEPTS ARE NOT ALLOWED TO BE USED FOR SOLVING THE FOLLOWING PROBLEMS. USE NESTED IF OR IF-ELSE-IF STRUCTURE TO SOLVE THE PROBLEMS.

QUESTION#1

A teacher has asked students to check whether the input number is divisible by 9 or not. For checking the divisibility, add the individual digits and see if the sum is divisible by 9 or not.

> For Eg:
> 99 = 9+9 = 18
> 18 is divisible by 9.

QUESTION#2

Write a C program to check isosceles, scalene or equilateral triangle when sides are given.

QUESTION#3
Write a program that asks for the number of calories and fat grams in a food. The program should display the percentage of calories that come from fat. If the calories from fat are less than 30% of the total calories of the food, it should also display a message indicating that the food is low in fat.
One gram of fat has 9 calories, so Calories from fat = fat grams * 9
The percentage of calories from fat can be calculated as: calories from fat/total calories
Input validation: Make sure the number of calories and fat grams are not less than 0.
Also, the number of calories from fat cannot be greater than the total number of calories. If that happens, display an error message indicating that either the calories or fat grams were incorrectly entered.

QUESTION#4
The admission criteria for a school is listed as follows:
- If the student gets 95 and above in the admission test, the student receives a 15% deduction in fees.
- If the students gets 90 and above but below 95 in the admission test, the student receives a 10% deduction in fees.
- If the student gets 80 and above in the admission test, the student receives a 8% deduction in fees.
- If the student gets 70 and above in the admission test, the student receives a 4% deduction in fees.

QUESTION#5
Kids want to spend the weekend at the beach. During the week they need to go to school. Print true if:

Week(false, false) → true
Week(true, false) → false
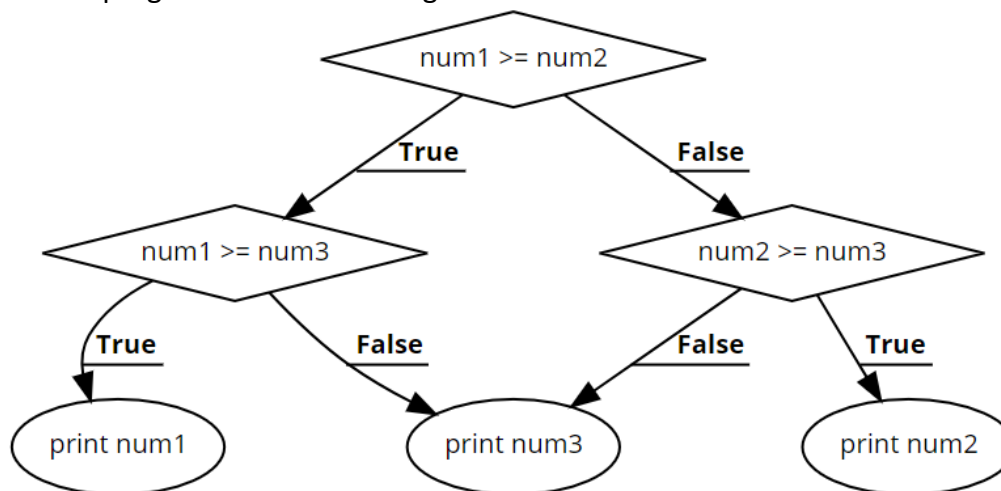Week(false, true) → true

QUESTION#6
Write a program to control a coffee machine. Allow the user to input the type of coffee as B for Black and W for White. The following table details the time chart for the machine for each coffee type. Display a statement for each step.

Operation	White Coffee	Black Coffee
Put Water	15 mins	20 mins
Sugar	15 mins	20 mins
Mix Well	20 mins	25 mins
Add Coffee	2 mins	15 mins
Add Milk	4 mins	-
Mix Well	20mins	25 mins

Note: Use switch structure to solve this problem.

QUESTION#7
Write a program for the following flowchart:

QUESTION#8

Using IF and Switch statement, write a program that displays the following menu for the food items available to take order from the customer:

       ·   B= Burger   (Rs. 200)

       ·   F= French Fries   (Rs. 50)

       ·   P= Pizza   (Rs. 500)

       ·   S= Sandwiches   (Rs. 150)

The custumer can order any combination of available food. The program first asks to enter the no of types of snacks i.e. 2, 3 or 4 then it ask to enter the choice i.e. B for Burger and then for quantity. The program should finally display the total charges for the order.

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          ABC Restaurant Online Order Placement
                        WELCOME!

Please select from the following Menu
B= Burger
F= French Fries
P= Pizza
S= Sandwiches
How many types of snacks you need to order: 2
Enter first Snack you want to order: B
Please provide quantity: 2
Enter second Snack you want to order: P
Please provide quantity: 3
-----------------------------------------------------------
You have ordered!
2 Burger (s) value 400 PKR
3 pizza (s) value 1500 PKR
Total: 1900 PKR
Thank you for your order... have a nice day.
```