# LAB#06 EXERCISES

## INSTRUCTIONS:
**NOTE: Violation of any of the following instructions may lead to the cancellation of your submission.**
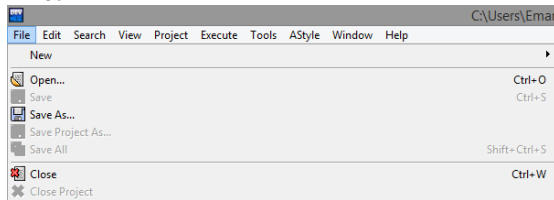
1. Paste the .c (Save as type) file for each question with the names such as Q1.c, Q2.c and so on into that folder.
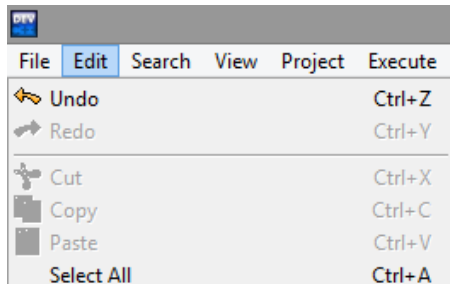
## QUESTION#1
Write a c program that creates a menu. Consider the following layout
Write a message while selecting the option i.e., if you are selecting save file, then print the option as "Saving File".
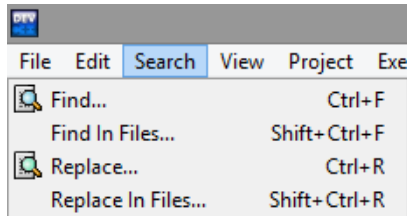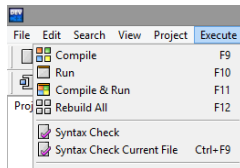
**File:**



**Edit:**



**Search:**



**Execute:**



## QUESTION#2

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

## QUESTION#3

Write a program in which user enters his NTS and F.Sc marks and your program will help student in selection of university. Based on these marks Student will be allocated a seat at different department of different university.

- NUST University
  - Mechanical: Above 70% in Fsc. and 70 % in NTS
  - Electrical: Above 70% in Fsc. and 60 % in NTS
  - Telecommunication: Above 70% in Fsc. and 50 % in NTS
- NED
  - IT: 70% - 60 % in Fsc. and 50 % in NTS
  - Chemical: 59% – 50 % in Fsc. and 50 % in NTS
  - Computer: Above 40% and below 50 % in Fsc. and 50 % in NTS

## QUESTION#4

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. Ask the user if the cup size is double (d) and the cup size is single(s). The following table details the time chart for the machine for each coffee type. Display a statement for each step. If the coffee size is double, increase the making time by double. Use functions to display instructions to the user and to compute the coffee time.

| 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#5

The National Earthquake Information Center has asked you to write a program implementing the following decision table to characterize an earthquake based on its Richter scale number.

| Ritcher Scale Number(n) | Characterization |
| --- | --- |
| N<5.0 | Little or no Damage |
| 5.0<=n<5.5 | Some damage |
| 5.5<=n<6.5 | Serious damage: walls may crack or fall |
| 6.5<=n<7.5 | Disaster: House and Buildings may collapse |
| higher | Catastrophe: most buildings destroyed |

Could you handle this problem with a switch statement? If so, use a switch statement; if not, explain why.

## QUESTION # 6

Write a program to calculate the fares of seats in the train. The train has three classes i.e., Economy, AC standard, Business Class. The user will provide the number of seats in any one of the classes mentioned

earlier. The user can also compute fares of seats of any combination of the classes (Economy, AC Standard, Business Class). For Example, the user wants to calculate the fares of two seats in Economy class, 2 seats in Business class and two seats in Ac Standard class. Seat in Economy class has fare equals 600 Rs. Seat in Ac standard class has fare equals 1000 Rs and Seat in business class has fare equals 2000 Rs.

## QUESTION # 7
Write a c program that prints "I will go to school" if the days are weekdays. Otherwise the program should print "I will go to play cricket".

## QUESTION # 8
A local shop sell three items. Items are USB, Handfree and charger. USB costs 800 Rs, Handfree costs 1000 Rs, charger costs 2000 Rs. The user can buy 1 item or the combination of any number of items. After selecting the item to be purchased the program should take input the number of USBs or Handfree or Charger, then compute the total amount. Sample output is attached below:

```
=================Items available are:===================

1. USB
2. Handsfree
3. Charger
Enter the number of items do you want to purchase: 2

Items Available:
Enter 1 for USB
Enter 2 for Handfree
Enter 3 for Charger
-------------------------------------------------
Enter first item: 1

Enter second item: 2

Enter the number of USB's do you want to purchase 3

Enter the number of Handfree's do you want to purchase 3

You have purchased 3 usb(s) having value 2400
You have purchased 3 Handfree (s) having value 3000
The total amount is   5400
```