NATIONAL TEXTILE UNIVERSITY

Department of Computer Science
<u>Lab # 3:</u> <u>Programming Fundamentals (COC-1071)</u>

Basic Information			
Registration#		**Name**	
Total Marks		**Marks Obtained**	
Tools:	Dev-C++ 5.4.1		
Objectives	1. If statements 2. If Else,	3. Multiple Selection (else-if, switch)	
Note	Solve the following problems using the concepts we have covered so far		

Activity 1: Variables

1. Following is the code which will print next character which comes after the 64 in the ASCII table

    ```
    int x=64;
    x++; //Same as x=x+1;
    cout<<"x="<<static_cast<char>(x);
    ```

    Ask user to enter ASCII code in integer form and then print next 5 character from that character
2. Ask the user to enter radius of the circle and print diameter, circumference and area of the circle. Declare the value of pi as **const float pi = 3.14159;** Please note in this statement **pi** is a **constant value variable** whose value cannot be changed.
3. Ask the user to enter the distance in Kilometers and convert it into meters, feet, yards and miles. Print appropriately
    One Kilometer = 0.621371192 Miles, 1000 Meters, 1093.6133 yards, 3280.8399 feet
4. **sizeof** operator show size of datatype in bytes i.e. cout<<"Size of int ="<<sizeof(int); Show size of bool, short, float, double

Single Selection (if)

5. Take two integers from the user and check whether first is multiple of second
6. Ask the user to enter two numbers, and show number followed by "is larger." OR "is Smaller" OR "Equal"
7. Input five integers from user and display minimum and maximum
8. Ask user to enter a character and tell whether it is large(>='A' and <='Z') alphabet or small alphabet
9. (Body Mass Index Calculator) Following is formula to calculate BMI: **BMI= weightInKilograms/ (heightInMeters^2).**
    User will enter his weight in Kilograms and height in **meters** and the BMI of the user and display following:
    - Display "You are Underweight" if BMI is less than 18.5
    - Display "You are Normal" if BMI is between 18.5 and 24.9
    - Display "You are Overweight" if BMI is between 25 and 29.9
    - Display "You are Obese" if BMI is greater than 30

Use And (&&) operator for writing multiple conditions in the if statement

Activity 2: Double Selection (if-else), Multiple Selection (else-if OR switch)

10. Ask the user to enter his marks in the Programming course, if the marks are greater than equal to 60 then display a message "He is Passed in the course" otherwise, display message: "He is Failed"
11. Solve Question No.5, 6 using if-else
12. If a year is divisible by 4 then this is a Leap Year. Input year and tell whether it a Leap Year or not
13. Ask the user to enter his\her marks and display his grade as follows:

A+	A	B	C	D	F
90-100	80-89	70-79	60-69	50-59	0-49

14. Solve the two integer calculator problem for operators (*, -, +, /,%) using **else-if and switch**
15. Input a vowel (a, e, I, o, u) and display any word starting from this vowel i.e. if user enter o display Operator
16. A senior salesperson is paid $800 a week, and a junior salesperson, $500 a week. Input a salesperson's status (S OR s for Senior, J OR) and number of weeks. Display relevant salary.
17. Write a code which check; student is eligible to get scholarship if his CGPA >= 3.5 if he is male and >=3 if she is female.