Lab 3: Switch statement, if else statements

10:45 am to 12:45 pm

Total marks: 15

General instructions

- **No compensation or makeup lab**
- **Don't discuss with peers.**
- **Cheating cases will be given ZERO.**
- **You can ask only relevant queries from TAs between 10:45 am to 12:45 pm.**
- **Last 45 minutes will be reserved for evaluation. Make sure to do proper time management**

Question 1: 15 marks

Write a program in c++ that do the following tasks:

1. Declare an integer variable named "choice".
2. Print the following messages on the screen.

   Enter 1 if you want to generate a random number between 3-12
   Enter 2 if you want to find square root of a number
   Enter 3 if you want to use the trigonometric functions (sin, cos, tan)
   Enter 4 if you want to find power of a number
3. Using switch statement, shift the control of program to implement relevant functionality. In default case, print the message "You entered wrong input!"
4. For each input case, the functionality to be implemented is defined below. Use if statements to implement conditional logic.

If user enters *1*

You can use **rand**() function defined in library ***cstdlib*** to generate and print the random numbers between 3 and 12.

If user enters *2*

You can use **sqrt** function defined in library ***cmath*** to generate and print the square root of a number. You can hardcode the number or take it as an input from the user.

If user enters *3*

You can use **sin, cos, tan** functions defined in library ***cmath*** to generate and print the trigonometric identities. You can hardcode the number or take it as an input from the user.

If user enters *4*

For this, you need to find two results/solutions (with/without using a built-in of C++ library). Take two numbers (a and b) as an input from the user (a^b)**.** To use a built in function, use a method named **pow**. Store the answer in a variable **result1.** Find the solution without using built in function and store the answer in **result2**. Compare these two results and print "You found correct solution" if the results are same. Print "Your solution is wrong" otherwise.