Blockchain Technology
Programming Assignment 2 (Weightage: 4% (8 marks)

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A company xyz.com wants to increase its revenues in this quarter. They have a talented Blockchain developer who gave this idea of giving ERC20 tokens every time the customer buys their product. After gaining certain number of tokens, they can avail discounts on their next purchases as decided by the company. (For example: 10 ERC20 tokens gives 10% discount, 20 means 25%, and so on...).

There is a limited supply of tokens. When discounts are availed, the tokens are sent to an unspent address.

You will have to create two smart contracts, one for creating the ERC20 tokens, and other as the main smart contract consisting of the business logic. You need to make sure that the purchase by the customer is validated and no fake/dummy entry allowed. (Hint: You can confirm from the company side).

The smart contracts will be deployed by the company only.

In order to build smart contracts, you need to first be familiar with Solidity language. Although you can build smart contracts using other languages, Solidity is one of the standard languages used by many blockchain developers which gives you the flexibility to get help from various forums (like StackOverflow, github, quora, etc).

You can get started with Solidity using this documentation:
https://docs.soliditylang.org/en/v0.8.17/
Remix IDE Documentation

For the purpose of this assignment, you must use remix IDE only.

1. Also create a readme file that describes the working of each function and various structures you have used in the Solidity code.
2. Your submission zip file should contain the readme file and the Solidity file you created.
3. You have to use the existing sample Ethereum network in Remix IDE to run your Solidity code.

Submission Guidelines:

- you can submit the final zip file to this google form: https://forms.gle/AwPfvsJckTqL88ct8
- Only one member from each team should be submitting the assignment.
- A single zip file must be submitted with the naming format BITSF452_A2_X.zip **(**Ex: BITSF452_A2_1.zip**)**
- Submission Deadline: **before 11:59 pm, 30.10.2023**.

Marks will be deducted if you fail to oblige with any of the submission guidelines.

If you have any further queries then you can mail them to any of the following TAs:

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