

ASSIGNMENT COVER

REGION: **\_\_\_\_\_\_\_\_Harare\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

PROGRAM: **Bachelors in Software Engineering**

INTAKE: \_\_1\_\_\_\_\_\_\_\_

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COURSE NAME: **Computer Programming\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

COURSE CODE: \_\_\_\_**\_\_BSIT131**

ASSIGNMENT NO. e.g., 1 or 2: **one\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DUE DATE: **\_\_\_10/04/2024\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_

MARKER’S COMMENTS: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

OVERALL, MARK: \_\_\_\_\_\_\_\_\_\_\_\_\_ MARKER’S NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MARKER’S SIGNATURE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE: \_\_\_\_\_\_\_\_\_\_\_

1. What is Education 5.0. Discuss the role of Computer Programming in supporting Education 5.0
2. Write a C program to convert Decimal to Binary **[20 Marks]**
3. Write C program to check given year is a leap year or not? **[20 Marks]**
4. Write a C program that mimic how an ATM works [**20 Marks]**

1) Steps to solve the problem:

a) Research and understand Education 5.0 and the role of Computer Programming in supporting it.

b) Discuss and brainstorm ideas on how Computer Programming can enhance Education 5.0.

c) Write a detailed analysis on the topic and provide examples of how Computer Programming can be integrated into Education 5.0.

2) C program to convert Decimal to Binary:

a) Take input from the user in the form of a decimal number.

b) Use a loop to continuously divide the decimal number by 2 and store the remainder.

c) Reverse the order of remainders to get the binary equivalent.

d) Display the binary equivalent.

3) C program to check if a given year is a leap year:

a) Take input from the user in the form of a year.

b) Check if the year is divisible by 4 but not divisible by 100 unless it is also divisible by 400.

c) Display whether the year is a leap year or not.

4) C program mimicking how an ATM works:

a) Create a menu with options for different ATM transactions such as withdrawal, deposit, check balance, etc.

b) Implement functions for each transaction option.

c) Use loops and conditional statements to simulate the ATM functionalities based on user input.

5) C program for a simple calculator using switch statement:

a) Take two numbers and an operator as input from the user.

b) Use a switch statement to perform the corresponding arithmetic operation based on the operator.

c) Display the result of the operation or an error message if an invalid operator is entered.

2) Output for Decimal to Binary conversion:

Enter a decimal number: 10

Binary equivalent: 1010

3) Output for Leap year check:

Enter a year: 2020

2020 is a leap year.

4) Output for ATM simulation:

Main Menu:

1. Withdrawal

2. Deposit

3. Check Balance

4. Exit

Enter your choice: 1

Enter the amount to withdraw: $50

$50 successfully withdrawn.

5) Output for Simple calculator using switch statement:

Enter two numbers: 10 5

Enter an operator (+, -, \*, /): +

Result: 10 + 5 = 15