Diploma in Native Application Assignment

Software Engineering Assignment

MODULE: 1
SE – Overview of IT Industry

- What is software? What is software engineering?
- Explain types of software
- What is SDLC? Explain each phase of SDLC
- What is DFD? Create a DFD diagram on Flipkart
- What is Flow chart? Create a flowchart to make addition of two numbers
- What is Use case Diagram? Create a use-case on bill payment on paytm.

MODULE: 2
SE – HTML and CSS

- Define the terms: Website, Webpage, Web browser, Web server, HTML, CSS
- Create a webpage to show "This is my first HTML page"
- Display top 10 IT companies list in html webpage
- Create a dropdown list
- Create a Table Of college Management system using row span & col span.
- Create below table using HTML table tags

- Create Registration form using HTML, CSS
- In how many ways can a CSS be integrated as a web page?
- Create simple three pages using External CSS, Internal CSS, and Inline CSS.
- Create below page using HTML CSS

- Create link-pseudo classes using external css, to format links on the pages.
- Create a dynamic pseudo class using HTML, CSS

MODULE: 3
SE – Fundamentals of Programming

- Display This Information using printf
  1. Your Name
  2. Your Birth date
  3. Your Age
  4. Your Address
- Write a program to make Simple calculator (to make addition, subtraction, multiplication, division and modulo)
- WAP to find area of circle, rectangle and triangle
- WAP to find simple interest
- WAP to check if the given year is a leap year or not.
- WAP to convert years into days and days into years
- WAP to make simple calculator (operation include Addition, Subtraction, Multiplication, Division, modulo)
- WAP to swap two numbers without using third variable
- WAP to find number is even or odd using ternary operator
- WAP to show
  1. Monday to Sunday using switch case
  2. Vowel or Consonant using switch case
- Looping programs:
  1. WAP to print 972 to 897 using for loop
  2. WAP to take 10 no. Input from user and find out …
  3. How many Even numbers are there
  4. How many odd numbers are there
  5. Sum of even numbers
  6. Sum of odd numbers WAP to print table up to given numbers

- WAP to print factorial of given number
- WAP to print Fibonacci series up to given numbers
- WAP to print number in reverse order e.g.: number = 64728 ---> reverse = 82746
- Write a program to find out the max from given number (E.g., No: -1562 Max number is 6)
- Write a program make a summation of given number (E.g., 1523 Ans: -11)
- Write a program you have to make a summation of first and last Digit. (E.g., 1234 Ans: -5)

Patterns:

```
1                 A                        *                    *
1 0               B C                    * * *               * *
1 0 1             D E F                 * * * * *           * * *
1 0 1 0           G H I J             * * * * * * *       * * * *
1 0 1 0 1         K L M N O         * * * * * * * * *   * * * * *
                                                        * * * * * *
                                                        * * * * *
1                 A                                     * * * *
2 3               A B                                   * * *
4 5 6             A B C                                 * *
7 8 9 10          A B C D                               *
11 12 13 14 15    A B C D E
```
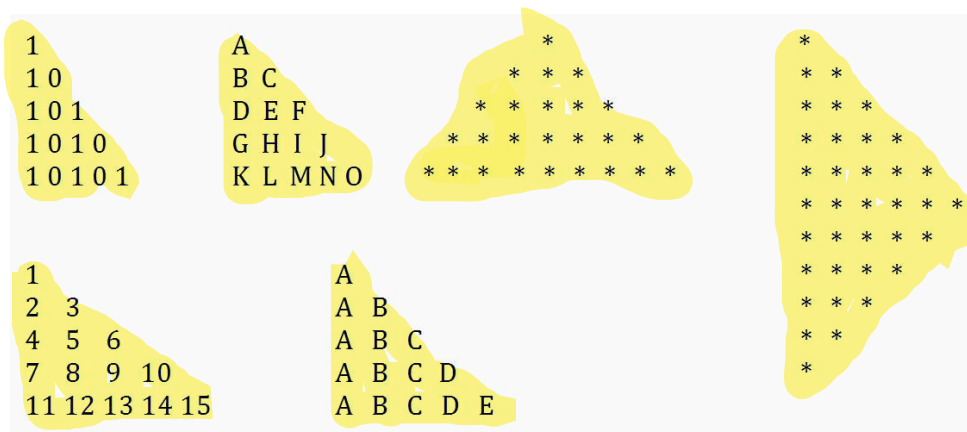
- Write a program to find out the max number from given array using function
- WAP of Addition, Subtraction, Multiplication and Division using Switch case.(Must Be Menu Driven)
- WAP to find reverse of string using recursion
- WAP to find factorial using recursion
- WAP to take two Array input from user and sort them in ascending or descending order as per user's choice
- WAP to make addition, Subtraction and multiplication of two matrix using 2-D Array
- WAP Find out length of string without using inbuilt function
- WAP to reverse a string and check that the string is palindrome or not
  Write a program of structure employee that provides the following

- information -print and display empno, empname, address and age
- Write a program of structure for five employee that provides the followinginformation -print and display empno, empname, address and age
- WAP to show difference between Structure and Union.

MODULE: 4
OOPS Concept

- WAP to print "Hello World" using C++
- What is OOP? List OOP concepts
- What is the difference between OOP and POP?
- WAP to create simple calculator using class
- Define a class to represent a bank account. Include the following members:
  1. Data Member:

     -Name of the depositor

     -Account Number

     -Type of Account

     -Balance amount in the account

  2. Member Functions

     -To assign values

     -To deposited an amount

     -To withdraw an amount after checking balance

     -To display name and balance

- Write a program to find the multiplication values and the cubic values using inline function
- Write a program of Addition, Subtraction, Division, Multiplication using constructor.
- Write a program of Addition, Subtraction, Division, Multiplication using constructor.

- Assume a class cricketer is declared. Declare a derived class batsman from cricketer. Data member of batsman. Total runs, Average runs and best performance. Member functions input data, calculate average runs, Display data. (Single Inheritance)
- Create a class person having members name and age. Derive a class student having member percentage. Derive another class teacher having member salary. Write necessary member function to initialize, read and write data. Write also Main function (Multiple Inheritance)
- Assume that the test results of a batch of students are stored in three different classes. Class Students are storing the roll number. Class Test stores the marksobtained in two subjects and class result contains the total marks obtained in the test. The class result can inherit the details of the marks obtained in the test and roll number of students. (Multilevel Inheritance)
- Write a program to Mathematic operation like Addition, Subtraction, Multiplication, Division Of two number using different parameters and Function Overloading
- Write a Program of Two 1D Matrix Addition using Operator Overloading
- Write a program to concatenate the two strings using Operator Overloading
- Write a program to calculate the area of circle, rectangle and triangle usingFunction Overloading
- ➢ Rectangle: Area * breadth
- ➢ Triangle: ½ *Area* breadth
- ➢ Circle: Pi * Area *Area
- Write a program to swap the two numbers using friend function withoutusing third variable
- Write a program to find the max number from given two numbers usingfriend function

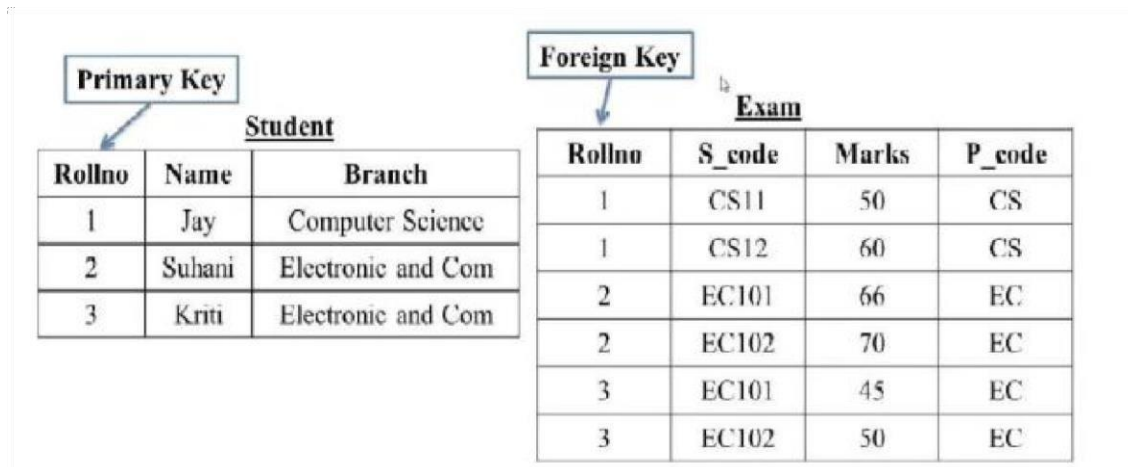- Write a program of to swap the two values using templates

- Write a program of to sort the array using templates.

MODULE: 5 (Database)

- What do you understand By Database
- What is Normalization?
- What is Difference between DBMS and RDBMS?
- What is MF Cod Rule of RDBMS Systems?
- What do you understand By Data Redundancy?
- What is DDL Interpreter?

- What is DML Compiler in SQL?
- What is SQL Key Constraints writing an Example of SQL Key Constraints
- What is save Point? How to create a save Point write a Query?
- What is trigger and how to create a Trigger in SQL?

Task
1. Create Table Name : Student and Exam

Primary Key → Student

Rollno	Name	Branch
1	Jay	Computer Science
2	Suhani	Electronic and Com
3	Kriti	Electronic and Com

Foreign Key → Exam

Rollno	S_code	Marks	P_code
1	CS11	50	CS
1	CS12	60	CS
2	EC101	66	EC
2	EC102	70	EC
3	EC101	45	EC
3	EC102	50	EC

Create table given below

Create table given below: Employee and IncentiveTable

Name: Employee

Employee_id	First_name	Last_name	Salary	Joining_date	Department
1	John	Abraham	1000000	01-JAN-13 12.00.00 AM	Banking
2	Michael	Clarke	800000	01-JAN-13 12.00.00 AM	Insurance
3	Roy	Thomas	700000	01-FEB-13 12.00.00 AM	Banking
4	Tom	Jose	600000	01-FEB-13 12.00.00 AM	Insurance
5	Jerry	Pinto	650000	01-FEB-13 12.00.00 AM	Insurance
6	Philip	Mathew	750000	01-JAN-13 12.00.00 AM	Services
7	TestName1	123	650000	01-JAN-13 12.00.00 AM	Services
8	TestName2	Lname%	600000	01-FEB-13 12.00.00 AM	Insurance

Table Name: Incentive

Employee_ref_id	Incentive_date	Incentive_amount
1	01-FEB-13	5000
2	01-FEB-13	3000
3	01-FEB-13	4000
1	01-JAN-13	4500
2	01-JAN-13	3500

a) Get First_Name from employee table using Tom name "Employee Name".
b) Get FIRST_NAME, Joining Date, and Salary from employee table.
c) Get all employee details from the employee table order by First_Name Ascending and Salary descending?
d) Get employee details from employee table whose first name contains 'J'.
e) Get department wise maximum salary from employee table order by

salaryascending?

f) Select first_name, incentive amount from employee and incentives table forthose employees who have incentives and incentive amount greater than 3000

g) Create After Insert trigger on Employee table which insert records in viewtable

Create table given below: Salesperson and Customer

TABLE-1

TABLE NAME- SALSEPERSON

(PK)SNo	SNAME	CITY	COMM
1001	Peel	London	.12
1002	Serres	San Jose	.13
1004	Motika	London	.11
1007	Rafkin	Barcelona	.15
1003	Axelrod	New York	.1

TABLE-2

TABLE NAME- CUSTOMER

(PK)CNM.	CNAME	CITY	RATING	(FK)SNo
201	Hoffman	London	100	1001
202	Giovanne	Roe	200	1003
203	Liu	San Jose	300	1002
204	Grass	Barcelona	100	1002
206	Clemens	London	300	1007
207	Pereira	Roe	100	1004

Retrieve the below data from above table

a) All orders for more than $1000.

b) Names and cities of all salespeople in London with commission above 0.12

c) All salespeople either in Barcelona or in London

a) All salespeople with commission between 0.10 and 0.12. (Boundary valuesshould be excluded).

b) All customers excluding those with rating <= 100 unless they are located inRome

Flutter Assignments

Module-1

Flutter - Introduction

1. Display This Information using print

   - Your Name
   - Your Birth date
   - Your Age
   - Your Address

2. Write a program to make addition, Subtraction, Multiplication and Division of Two Numbers.

3. Write a program to make a square and cube of number.

4. Write a program to find the Area of Circle

5. Write a program to find the Area of Triangle

6. Write a program to find the simple Interest.

7. Write a program to convert temperature from degree centigrade to Fahrenheit.

8. Write a program to calculate sum of 5 subjects & find the percentage. Subject marks entered by user.

9. Write a Program to show swap of two No's without using third variable.

10. Write a Program to check the given number is Positive, Negative.

11. Write a Program to check the given year is leap year or not.

12. Write a Program to check the given number is prime or not prime.

13. Write a program to find the Max number from the given three number using Nested If

14. Write a program to find the Max number from the given three number using Ternary Operator

15. Write a program to find the Max number from the given three number using Nested If

16. Write a program user enter the 5 subjects mark. You have to make a total and find the percentage. percentage > 75 you have to print "Distinction" percentage > 60 and percentage <= 75 you have to

    print "First class" percentage >50 and percentage <= 60 you have to print "Second class" percentage > 35 and percentage <= 50 you have to print "Pass class" Otherwise print "Fail"

17. Write Program use switch statement. Display Monday to Sunday

18. Write a Program of Addition, Subtraction ,Multiplication and Division using Switch case.(Must Be Menu Driven)

19. Write a program of to find out the Area of Triangle, Rectangle and Circle using If Condition.(Must Be Menu Driven)

20. Looping Programs

    Write a program to print the 1 to 10 using for loop.
    Write a Program to print the 51 to 60 using while loop
    Write a program to print the 100 to 81 using do   while loop
    Write a program you have to find the factorial of given number.
    Write a program you have to print the Fibonacci series up to user given number
    Write a program you have to print the table of given number.
    Write a program to print the number in reverse order.

21. Write a program to find out the max from given number
    (E.g. No: -1562 Max number is 6)

22. Write a program make a summation of given number(E.g. 1523 ans :-11)
23. Write a program you have to make a summation of first and last Digit.
    (E.g. 1234 ans:-5)

24. Create Below Patterns:

* ** *** **** *****	1 12 123 1234 12345	1 22 333 4444 55555	* ** *** **** *****
1 21 321 4321 54321	* ** *** **** *****	* * * * * * * * * * * * * * *	1 1 2 1 2 3 1 2 3 4 1 2 3 4 5
1 2 2 3 3 3 4 4 4 4 5 5 5 5 5	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 0 1 1 0 1 1 0 1 0 1 0 1 0 1	1 4 4 9 9 9 16 16 16 16 25 25 25 25 25

Module - 2

Fundamental – Dart Programming

1. What is inheritance?

2. Which inheritance is not supported by Dart? Why?

3. What is advantage of inheritance?

4. Difference between inheritance and encapsulation.

5. Difference between inheritance and abstraction.

6. Difference between inheritance and polymorphism.

7. Can we override static method in Dart?

8. Can we overload static method in Dart?

9. Can a class implement more than one interface?

10.   Can a class extend more than one class in Dart?

11.   Can an interface extend more than one interface in Dart?

12.   What will happen if a class implements two interfaces and they both have a method with same name and signature?

13.   Can we pass an object of a subclass to a method expecting an object of the super class?

14.   Are static members inherited to sub classes?

15.   What happens if the parent and the child class have a field with same identifier?

16.   Are constructors and initializers also inherited to sub classes?

17.   How do you restrict a member of a class from inheriting by its sub classes?

18.   How do you implement multiple inheritance in Dart? Can a class extend by itself in Dart?

19.   How do you override a private method in Dart?

20.   When to overload a method in Dart and when to override it?

21.   What the order is of extends and implements keyword on Dart class declaration?
    B23. How do you prevent overriding a Dart method without using the final modifier?
    B24. What are the rules of method overriding in Dart?

22.   Difference between method overriding and overloading in Dart.

23.   What happens when a class implements two interfaces and both declare field (variable) with same name?

24. Can a subclass instance method override a superclass static method?

25. Can a subclass static method hide superclass instance method?

26. Can a superclass access subclass member?

27. Difference between object oriented and object based language.

28. Explain Diamond problem.

29. Why Dart does not support operator overloading?

30. What is Encapsulation in Dart?

31. Which of the Dart OOPS feature promotes access protection or data hiding?

32. Create a class named 'PrintNumber' to print various numbers of different datatypes by creating different methods with the same name 'printn' having a parameter for each data type.

33. Create a class to print an integer and a character with two methods having the same name but different sequence of the integer and the character parameters. For example, if the parameters of the first method are of the form (int n, char c), then that of the second method will be of the form (char c, int n).

34. Create a class to print the area of a square and a rectangle. The class has two methods with the same name but different number of parameters. The method for printing area of a rectangle has two parameters which are length and breadth respectively while the other method for printing area of square has one parameter which is side of square.

35. Create a class with a method that prints "This is a parent class" and its subclass with another method that prints "This is child class". Now, create an object for each of the class and call 1 - method of parent class by object of parent class 2 - method of child class by object of child class 3 - method of parent class by object of child class

36. Create a class named 'Member' having the following members:

    Data members 1 - Name 2 - Age 3

37. Phone number 4 - Address 5 - Salary It also has a method named 'printSalary' which prints the salary of the members. Two classes 'Employee' and 'Manager' inherits the 'Member' class. The 'Employee' and 'Manager' classes have data members

'specialization' and 'department' respectively. Now, assign name, age, phone number, address and salary to an employee and a manager by making an object of both of these classes and print the same.

38.   Create a class named 'Rectangle' with two data members 'length' and 'breadth' and two methods to print the area and perimeter of the rectangle respectively. Its constructor having parameters for length and breadth is used to initialize the length and breadth of the rectangle. Let class 'Square' inherit the 'Rectangle' class with its constructor having a parameter for its side (suppose s) calling the constructor of its parent class as 'super (s, s)'. Print the area and perimeter of a rectangle and a square.

39.   Write a program to print the area and perimeter of a triangle having sides of 3, 4 and 5 units by creating a class named 'Triangle' without any parameter in its constructor.

40.   Print the sum, difference and product of two complex numbers by creating a class named 'Complex' with separate methods for each operation whose real and imaginary parts are entered by user.

41.   Create an abstract class 'Parent' with a method 'message'. It has two subclasses each having a method with the same name 'message' that prints "This is first subclass" and "This is second subclass" respectively. Call the methods 'message' by creating an object for each subclass.

42.   Create an abstract class 'Bank' with an abstract method 'getBalance'. $100, $150 and $200 are deposited in banks A, B and C respectively. 'BankA', 'BankB' and 'BankC' are subclasses of class 'Bank', each having a method named 'getBalance'. Call this method by creating an object of each of the three classes.

43.   We have to calculate the percentage of marks obtained in three subjects (each out of 100) by student A and in four subjects (each out of 100) by student B. Create an abstract class 'Marks' with an abstract method 'getPercentage'. It is inherited by two other classes 'A' and 'B' each having a method with the same name which returns the percentage of the students. The constructor of student A takes the marks in three subjects as its parameters and the marks in four subjects as its parameters for student B. Create an object for eac of the two classes and print the percentage of marks for both the students.

44.   Write a program to print the factorial of a number by defining a method named 'Factorial'. Factorial of any number n is represented by n! And is equal to 1*2*3*. *(n-1) *n. E.g. - 4! = 1*2*3*4 = 24 3! = 3*2*1 = 6 2! = 2*1 = 2 Also, 1! = 1 0! = 0

45.   We have to calculate the area of a rectangle, a square and a circle. Create an abstract class 'Shape' with three abstract methods namely 'RectangleArea' taking two parameters, 'SquareArea' and 'CircleArea' taking one parameter each. The parameters of 'RectangleArea' are its length and breadth, that of 'SquareArea' is its side and that of 'CircleArea' is its radius. Now create another class 'Area' containing all the three methods 'RectangleArea', 'SquareArea' and 'CircleArea' for printing the area of rectangle, square and circle respectively. Create an object of class 'Area' and call all the three methods.

46.   Write a program which will ask the user to enter his/her marks (out of 100). Define a method that will display grades according to the marks entered as below:

Marks Grade
91-100 AA
81-90 B
71-80 BB
61-70 BC
51-60 CD
41-50 DD
<=40 Fail

47.   Create a class named 'Shape' with a method to print "This is This is shape". Then create two other classes named 'Rectangle', 'Circle' inheriting the Shape class, both having a method to print "This is rectangular shape" and "This is circular shape" respectively. Create a subclass 'Square' of 'Rectangle' having a method to print "Square is a rectangle". Now call the method of 'Shape' and 'Rectangle' class by the object of 'Square' class.

48.   All the banks operating in India are controlled by RBI. RBI has set a well-defined guideline (e.g. minimum interest rate, minimum balance allowed, maximum withdrawal limit etc) which all banks must follow. For example, suppose RBI has set minimum interest rate applicable to a saving bank account to be 4% annually; however, banks are free to use 4% interest rate or to set any rates above it. Write a DART program to implement bank functionality in the above scenario and demonstrate the dynamic polymorphism concept. Note: Create few classes namely Customer, Account, RBI (Base Class) and few derived classes (SBI, ICICI, PNB etc). Assume and implement required member variables and functions in each class.

49.   Suppose a class 'A' has a static method to print "Parent". Its subclass 'B' also has a static method with the same name to print "Child". Now call this method by the objects of the two classes. Also, call this method by an object of the parent class referring to the child class i.e. A obj = new B ()

50. Create a program for asynchronous programming using async & await .

51. Create a program using List

52. Create a program using Set

53. Create a program using Map

Module - 3

Advance UI Designing and Development

54. Create an application to take input number from user and print its reverse number in TextView without button.

55. Create an application to input 2 numbers from user and all numbers between those 2 numbers in next activity

56. Create an application with radio buttons (Add, Substraction, Multiply, Division) EditText (number1, number2) and print result as per user choice from radio button in TextView

57. create an application to change background when button is clicked

58. create an application to increate font size when plus button click and decrease when minus button click

59. create an application to display n edittext where n is number input by user

60. create an application to display Text view when checkbox is checked and hide otherwise

61. Write a program to show four images around Text view.

62. Write a program in android display screen color which the Color will be select from the radio button.

63. Write a program you have taken three seek bar controls.

64.   From three Seekbar which Seekbar value changed the background color of device will be changed.

65.   Create custom toolbar as per given below design Create toolbar with spinner and search functionality

66.   Write a code to display simple alert dialog with title, description and icon when button is clicked

67.   Write a code to display alert dialog with positive, negative and neutral button and display toast respectively user's choice

68.   Write a code to display alert dialog with list of cities and Single choice selection display selected city in TextView

69.   open alert dialog when user want to exit from the application

70.   Write a code to select Date on button's click event

71.   What are different menus in android. Explain each with example

72.   Write a code to display profile and logout option in options menu

73.   Write a code to display edit, view, delete options with context menu in listview and also perform respective operation on user's choice

74.   Create an application like gmail and display Screens according to user selection and design each page with dummy data

75.   Create an application with bottom navigation with 3 tabs Gallery, audio and video and design each page with dummy data

76.   Create an application with Navigation Drawer with 3 tabs Gallery, audio and video and design each page with dummy data

77.   create a Phone call App when user first time open the app it will automatically generate one dialog which has two option allow,deny if click on allow permission is grant in settings

78. Write a code to display Splash Screen using Activity

79. Write a code to redirect user from one activity to another when button click.

80. Create an Android Application which Manage Activity Lifecycle Stages and Showing Toast with Performing Different Stages.

81. Create an Application to take input two numbers from users and when user press button then display sum of those values of next Activity.

82. Call , Send Sms , mail, share

83. Write a program to add name from the text view and insert into the listview. If you click on the list view then name should be show in the dialog box. When user press for 2 seconds on particular List item then open Context Menu (Delete Item, Edit Item, Exit). If user click on Delete Item then Open one Alert Dialog with message ("Are you sure want to delete Item?") and yes, no button if user press yes button then remove item from list. (Click a DELETE button, it gives a confirm box) If user click on Edit item then selected item display on EditText and again user click on button then this (updated item) should be replace with old item.

Module - 4

Flutter - Offline Database- SQLite

84. SQLite and shareprefrence

85. To create task management application for adding, updating, deleting the task and show the tasks in the list view or grid view. Task have name, description, date, time, priority. • To sort the task by the date and time wise. • If task is due then automatically show as blue color. • It will search the tasks by date wise. • If high priority then show as red color, average priority as blue color, low priority as green color. • Select specified item an open context menu to select "Complete the Task" then this task is modified as gray color and stripe line over the all the statements (showable labels). • Search task by name in the list view.

86. Create an app for Manage Crud Operation using SQLite

87. Create an app for Manage Login and Logout Operation using SharedPrefrence

Module - 5

Flutter - Advance App Development

88. Create an application in which employee can login and register with MySQL
     database

89. In previous application after logging employee can insert, update and delete project
     details

90. Create an application to select employee profile page in which employee can upload
     profile pic selected from gallery or camera after login to application

91. Create an application to upload Profile Picture of User

92. Create an application for OTP verification using firebase

93. Create a crud operation using firestone.

94. Create an application for Social media Login

95. Create an application to display Current location of user using google map.

96. Write code to play song in background using service.

97. Display Current Battery Level of phone using broadcast receiver.

Module - 6

Flutter – Deployment

98. CREATE APPLICATION AND PUT IT ON GITHUB WITH APK