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Mini-Project Pre-submission Report:

Course Name: - Python Programming

Course Code: - INT213

Submitted To: - DR. Prateek Agrawal

Project No: - 17th

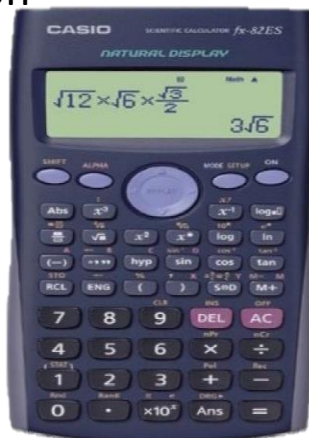
Project Name: - Scientific Calculator

Team Members: -

**RK21CRB58 (12115299), RK21CRB34(12103695),
RK21CRA17(12107018).**

University: -Lovely Professional University

Project Statement: - Design a Scientific calculator with proper GUI using python



Purpose of calculator and its functions briefly: -

It is a scientific calculator application. This application is used for calculating math functions easily.

In this application two types of calculators are there: -

1.standard calculator

2.scientific calculator

The first one is quite simple to solve arithmetic operations. And convert the result into either integer or float pointing number. And then the second one is scientific notation type math functions like sin. Cos, tan, log, etc. it is extremely useful to solve the odd math calculations in less time and in a simple manner and easily to use. Especially I used menu bar with two items one is standard and second one is scientific.

Different Modules and functions: -

1.Standard Calculator:

- **Sum**
- **Subtraction**
- **Division**
- **Multiplication**
- **Modulo**

2.Scientific Calculator:

- **Trigonometric and Logarithmic functions**
- **Exponential and Inverse function**

Functions and its detail description below

BASIC FUNCTIONS

Addition

The addition (sum function) is used by clicking on the "+" button or using the keyboard. The function results in $a + b$.

Subtraction

The subtraction (minus function) is used by clicking on the "-" button or using the keyboard.

The function results in $a - b$.

Multiplication

The multiplication (times function) is used by clicking on the "x" button or using the keyboard "*" key. The function results in $a * b$.

Division

The division (divide function) is used by clicking on the "/" button or using the keyboard "/" key. The function results in a / b .

Sign

The sign key (negative key) is used by clicking on the "(-)" button. The function results in $-1 * x$.

Square

The square function is used by clicking on the " x^2 " button or type " 2 ". The function results in $x * x$.

Square Root

The square root function is used by clicking on the " x " button or type "sqrt ()".

This function represents $x^{.5}$ where the result squared is equal to x .

Raise to the Power

The raise to the power (y raised to the x function) is used by clicking on the " y^x " button or type "^".

Natural Exponential

The natural exponential (e raised to the x) is used by clicking on the " e^x " button or type "exp ()". The result is e (2.71828...) raised to x.

Logarithm

The logarithm (LOG) is used by clicking on the "LOG" button or type "LOG ()".

Natural Logarithm

The Natural logarithm (LN) is used by clicking on the "LN" button or type "LN ()".

Inverse

Multiplicative inverse (reciprocal function) is used by pressing the " $1/x$ " button or typing "inv()". This function is the same as x^{-1} or dividing 1 by the number.

Exponent

Numbers with exponents of 10 are displayed with an "e", for example $4.5e+100$ or $4.5e-100$. This function represents 10^x . Numbers are automatically displayed in the format when the number is too large or too small for the display. To enter a number in this format use the exponent key "EEX". To do this enter the mantissa (the non exponent part) then press "EEX" or type "e" and then enter the exponent

Factorial

The Factorial function is used by clicking the "!" button or type "!"

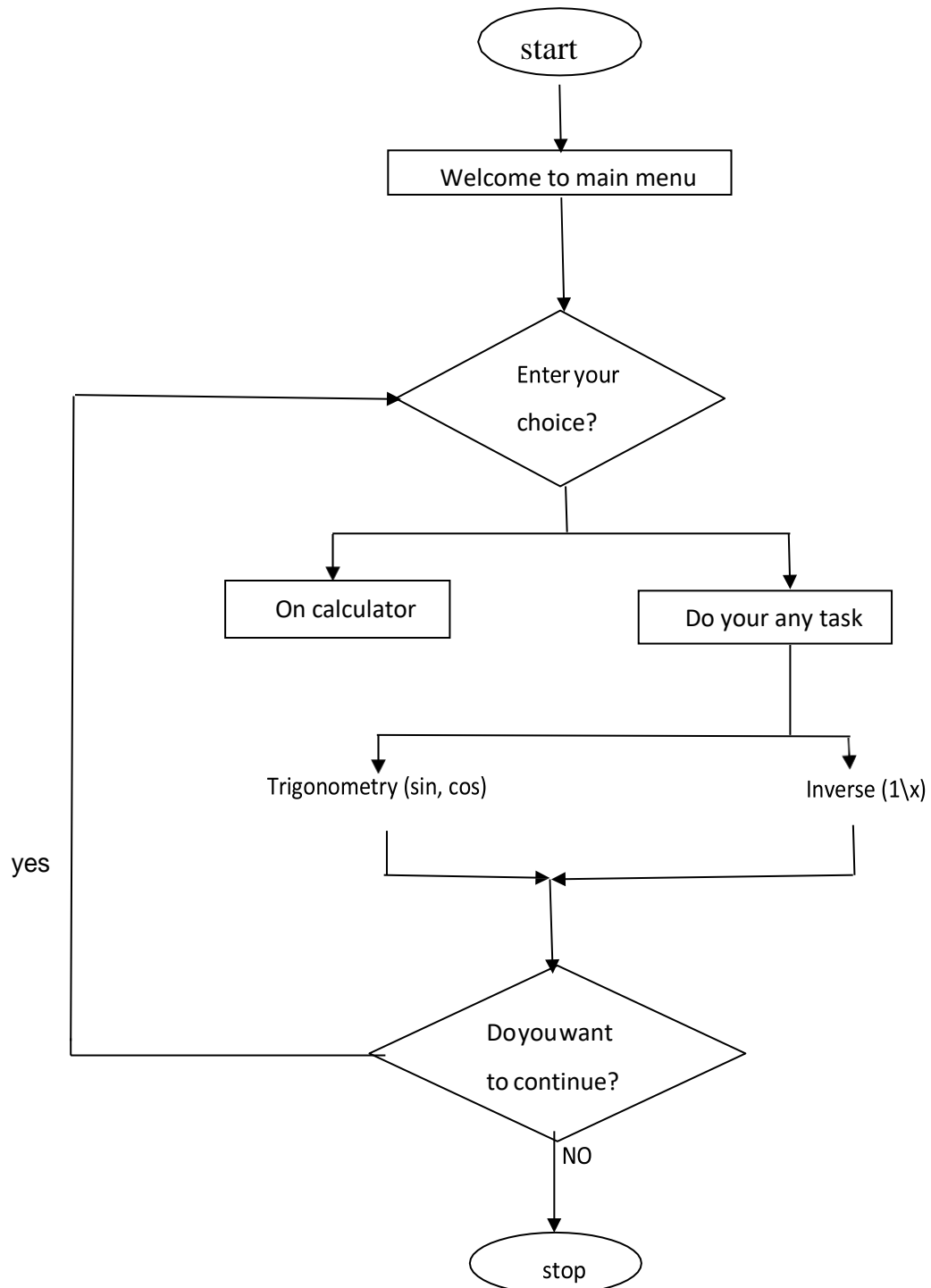
PI

PI is a mathematical constant of the ratio of a circle's circumference to its diameter.

PROJECT ROLES AND RESPONSIBILITIES

Name	Reg No	Roles and Responsibilities
JAIN KIRTAN SUNIL	12115299	GUI Design and coding, Gantt Chart and pre submission report. Integrity and Module interaction functions like switching between standard to scientific, exit functions. Integrity and system testing.
SUDHANSHU RAJ TIWARI	12103695	Standard Calculator functions like arithmetic functions and square roots. GUI coding.
GURKIRAT KAUR SURI	12107018	Scientific Calculator functions, cut copy paste functions, GUI coding individual functions testing.

FLOW CHART



Gantt Chart and Work Plan

