

Hybrid Calculator

An integrated Calculation Platform

CONTRIBUTOR

Virag Patel

19IT114

ABSTRACT

This paper presents a common platform to carry out different types and calculations for different types of peoples from different walks of life

INTRODUCTION

It is a simple calculator like other functioning calculator's which receives the user response does its calculation and displays the output. There is a change in this calculator as it does not do the four basic operation but many more than that as the name suggests. It is made by looking at people from different streams having problem in calculations or mainly the time delay in calculations due to lack of proper resources.

Today people from different streams use many different types of calculators according to their respective fields and work, but they fail to find a calculator which does any type of calculations in just fractions of second. They need to have different calculators for different calculations. Hybrid calculator is a best option as it asks the user about the calculations he needs to do, takes the response, process it and displays the result in just fractions of a second. So, this is made by keeping people from different sectors into the mind. It is fascinating as it does calculations like resistance accord to colour bands, day calculations based on the date and many more...

TECHNOLOGY:

So, basically this calculator starts by asking the user about the calculations he needs to make. The response is taken from the user through the objects of Scanner class, which is a defined in the java.util package which is required to take the inputs from the user. It will be a menu driven program which will enable the user to do different calculations according his needs and available in the program. After the completions of one calculation, the user will be again displayed

the different calculations which he can do using the Hybrid Calculator. For different types of calculations, different methods will be created which will be invoked at the run time according to the choice of the user.

Working/Steps:

First of all, user is displayed with list of calculators available. Next, the user is prompted to select the calculator for which he needs to perform the calculations.

After having the input from the user, the execution of the program starts from the main method of this project contained inside the class HybridCalc.java.

The main method contains a Switch-Case which calls the particular class according to the user's choice and carry out the calculations.

The main logic of the program is kept in while loop, so that the whole program can run again on user's choice, and there is no requirement of making an object of current class and call the methods again.

Invalid Input

Whenever the program receives an input which is of different form than expected than the program will pop up with an error of invalid input to the user and will provide a suggestion where the user is going wrong.

1. Resistance Calculator.
2. Day Calculator.
3. Angle Calculator.
4. Pressure Calculator.
5. Data Calculator.
6. Speed Calculator.
7. Time Calculator.
8. Power Calculator.
9. Area Calculator.
10. Energy Calculator.
11. Temperature Calculator.
12. Length Calculator.
13. Volume Calculator.
14. Programmers Calculator.

Flow of Project

The user is prompted to enter his choice from the available calculators supported only or the program will end up with an invalid input error.

Programmatically:

To achieve it programmatically, we will use

java.util.Scanner class to accept the input from the user and use it forward for calculations.

Scanner is a class in java. util package used for obtaining the input of the primitive types like int, double, etc. and strings. It is the easiest way to read input in a Java program, though not very efficient if you want an input method for scenarios where time is a constraint like in competitive programming. (will add as I proceed)

FEATURES:

1. Easy to use.
2. Proper guidelines for the user, regarding the input.
3. Provides suggestions where the user going wrong.
4. Availability of reusing
5. Suggestions for the user if an invalid input is entered.
6. Algorithms Designed with minimum time complexity possible.

CONCLUSION:

In the paper I have mentioned how my project works and what it is capable of doing.

Hybrid calculator will help the user to make a request to application in an easy way and get response quickly without involving human at all. It will also take care to provide output with minimum number of inputs and be a user-friendly environment. It includes amazing types of functions which enable the user to think about it that how is that possible. And yes, it is a very friendly and easy to use application made using JAVA.

REFERENCES

Windows Calculator.

<https://atozmath.com/default.aspx>

Total Calculator – An application available on play store.

All in one Calculator – An app available on play store.

<https://www.calculator.net/resistor-calculator.html>