SYNOPSYS

Project Title	:	GUI Calculator In JAVA.
AIM	:	To Build a smart calculator using java to make our Daily calculations and conversions easy.
Objective	:	A Smart Calculator, which allows the user to do all simple calculations, all trigonometric operations and trigonometric Hyperbolic operations along with the number system Converter and Ascii Converter.
Technologies Used	:	JAVA JDK & JRE and Swing Contributions.
Software Requirements	:	Latest Version of JAVA is Highly recommended, at least JAVA 1.1 is the minimum requirement.
Assumptions Taken	:	By considering the main elements and features of a simple and smart calculator we assumed the user also needs to interact with some smart and useful conversions. Thus we added some more convertors of number systems like base convertors and Ascii Converters.
Details Handled	:	As we already mentioned in Assumptions, we incorporated all to all number base converters like decimal to binary , binary to octal etc, Also provided a tool to convert English data to Ascii value. As well as we handled basic trignometric, algebraic and hyperbolic calculations for user input data.

Sample Scenarios : Most of the Standard and scientific calculators doesn't have a feature like all to all number system converters, our smart calculator has this excellent feature. No need to enter the same value many times to get various conversions, just click a single button to get all conversions. Also most of the reputed calculators don't provide any Ascii conversions, but we have it ! we will give Ascii output to your input while you are deeply studying or doing any research.

Who can use this application in real life :

All students and mostly communication engineering students are highly required to use ascii tables and binary data handling for them, this calculator is highly recommended. Most of the data scientists deal with data conversion from binary to decimal and vice versa. Also to convert them to hexadecimals while allocating storage addresses in RAM or at any complex servers and databases. For them also it is highly recommended to use such calculators.

Additional Description & *Key Features*:

1. In this calculator user has some additional features like keyboard shortcuts like $shift + N$ for standard calculator, $shift + C$ for Number converter $shift + A$ for an Ascii converter.
2. Good security in converters, i.e, To avoid confusion all conversions have unique components to use like checkboxes.
3. Parallel Usage, i.e, user can use standard Calculator and Number converter and Ascii Converter Simultaneously without any data loss. Which allows more comfort to users.
4. Attractive colour codes are used to avoid confusions between Mathematical operators and algebraic operators and trigonometric operations.

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