

User Manual

(2D Graph plotter for statistical and mathematical purposes)

2D Graph plotter provide user with the estimated plot of basic mathematical functions like

1.sin(x)

2.cos(x)

3.tan(x)

4.arcsin(x)

5.arccos(x)

6.arctan(x)

7.log(x)

8. cot(x)

9.exp(x)

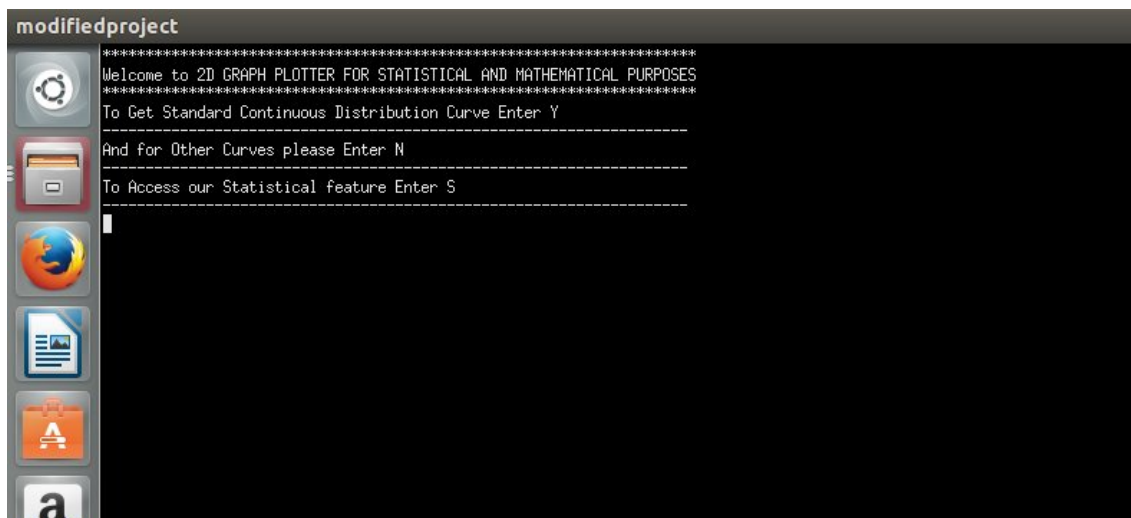
10.sqrt(x)

11.x^a

12.a^x.....etc

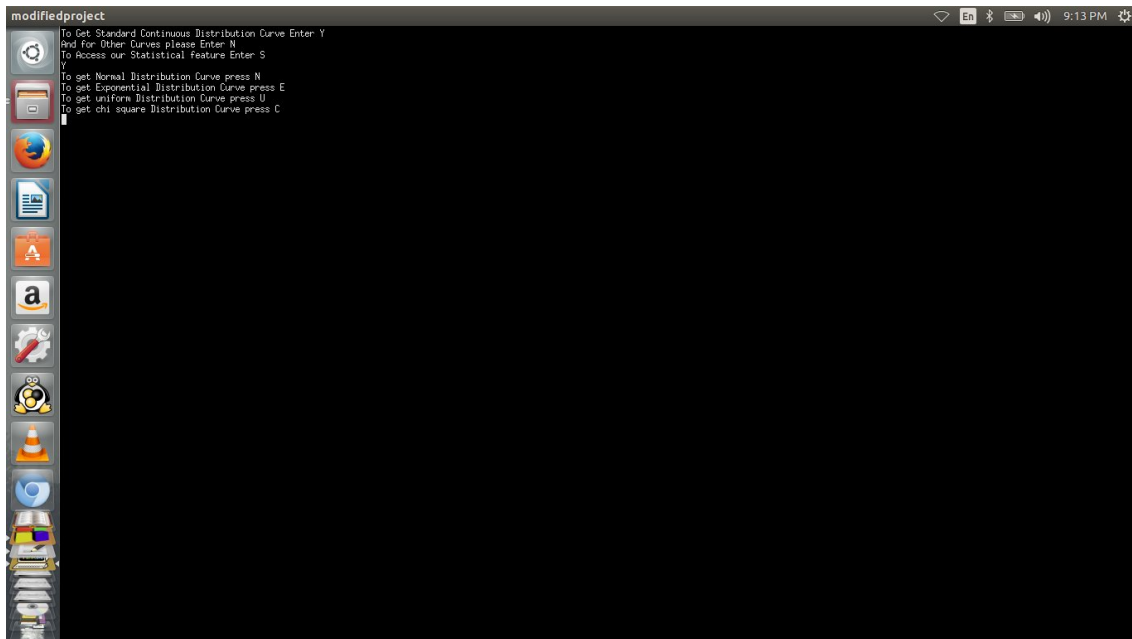
And all possible compositions of above mentioned functions

User shall encounter first of all on the terminal Fig1. Where user shall read these statements



User is asked whether the user want statistical calculation or distribution curve or some othe mathematical function curve which user wants to give as input and obtain graphical plot. The corresponding instruction are provide to avail the feature

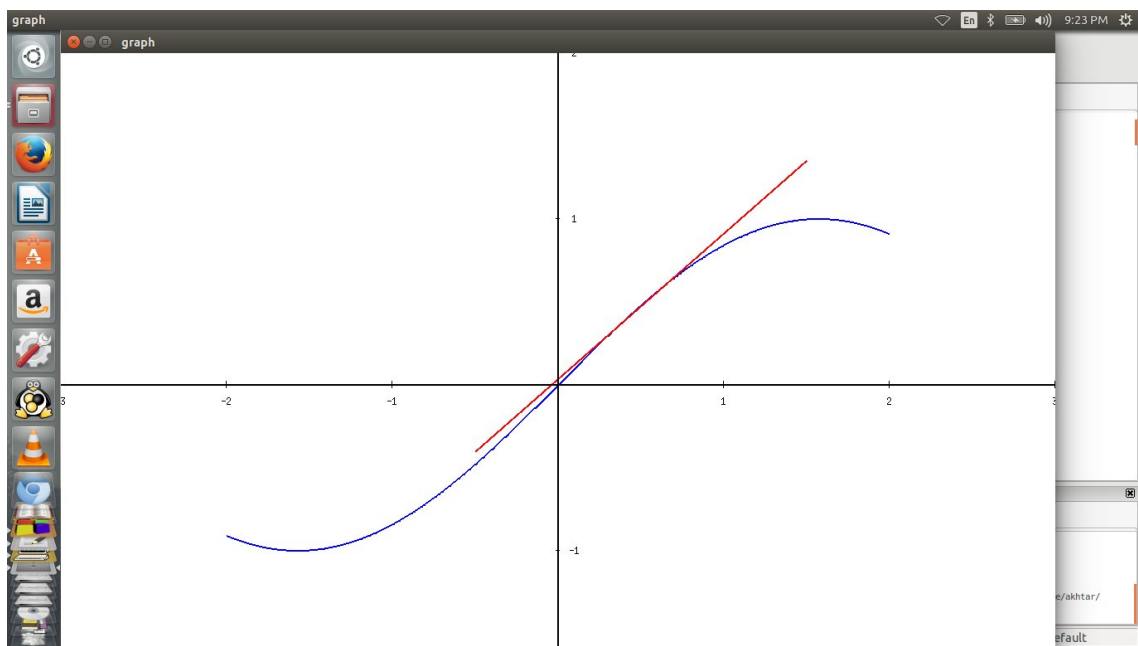
As an example if a user is interested to access the statistical feature of software application user shall press key as per instruction and new set of instruction shall appear on terminal like fig 2.

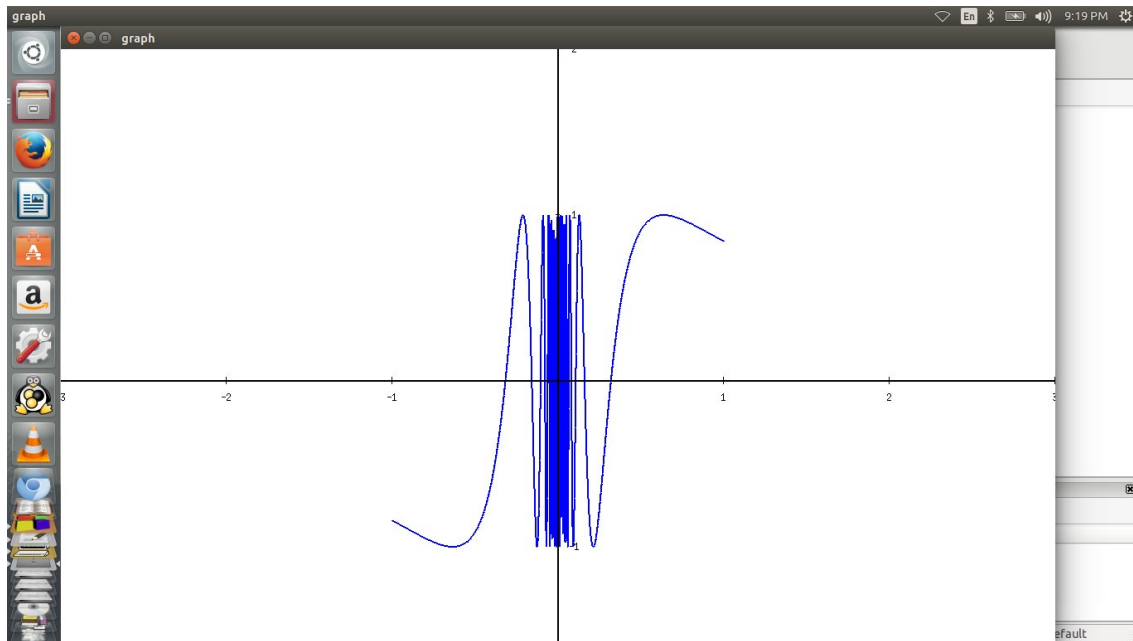


If user is interested in providing his or her own function then shall select the second option and it will ask user to enter function as per above $f(x)=$ will appear so as to indicate the to enter the function in variable x

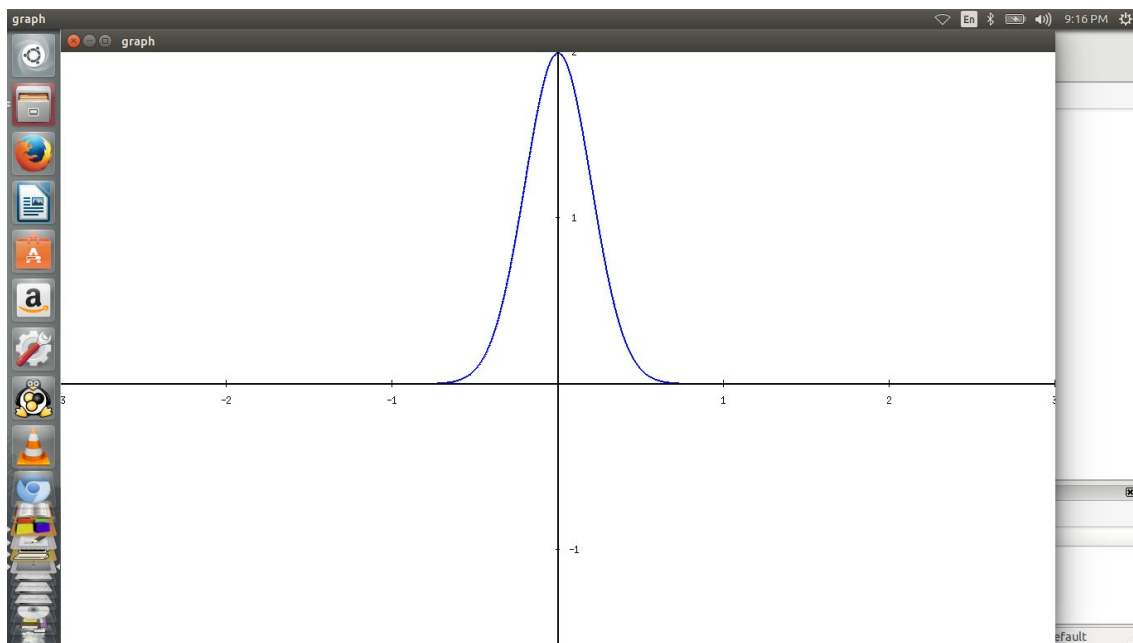
Any syntax error in expression will bring error msg on terminal if valid fun is given it shall ask the user for interval on which user want the plot to be done. Then user has facility to even have indicated tangent line at some of point specified by user then or else user can skip this facility.

```
modifiedproject
To Get Standard Continuous Distribution Curve Enter Y
and for Other Curves please Enter N
To Access our Statistical feature Enter S
N
f(x) =
Syntax error
f(x) = sin(x)
Please Specify your desired Interval:
-2
2
Do you want to see the tangent at any point between a,b:
if yes press 1 , if no press 0
1
Enter the point:
0.5
XIO: fatal IO error 11 (Resource temporarily unavailable) on X server ":10"
after 100896 requests (100896 known processed) with 32170 events remaining.
Process returned 1 (0x1)   execution time : 66,392 s
Press ENTER to continue.
```





Under the facility of statistical feature if user wants some standard continuous distribution for example normal distribution curve, message to enter the required parameters will appear on screen .If any error occurs in input of parameter then error msg is displayed. Else it shall ask user for its desired interval then the plot comes as following figure.



If user is interested in using the statistical calculation feature of this application then user shall encounter instruction like on the next figure on terminal.

```
modifiedproject
To Get Standard Continuous Distribution Curve Enter Y
And for Other Curves please Enter N
To Access our Statistical feature Enter S
S
inside s_-----
Welcome to Statistical Functions :
-----
You have two samples of same size
Enter the sample size :6

Enter data : X =
1
2
3
5
9
7

Y =
5
2
4
6
8
5

Enter the following features :
1. Sample mean
2. Sample Variance
3. Line of Regression
4. Coefficient of Correlation
Press -1 to exit : █
```

The Messages in terminal are suggestive for the user for availing the statistical calculation of data input by user.

modifiedproject

To Get Standard Continuous Distribution Curve Enter Y
And for Other Curves please Enter N
To Access our Statistical feature Enter S
S
inside s_____

Welcome to Statistical Functions :

You have two samples of same size
Enter the sample size :6

Enter data : X =
1
2
3
5
9
7

Y =
5
2
4
6
8
5

Enter the following features :
1. Sample mean
2. Sample Variance
3. Line of Regression
4. Coefficient of Correlation
Press -1 to exit : 2
Please enter :
1. Sample Variance X
2. Sample Variance Y
0. To go back
1
Sample Variance X = 7.91667
2
Sample Variance Y = 3.33333
0

Enter the following features :
1. Sample mean
2. Sample Variance
3. Line of Regression
4. Coefficient of Correlation
Press -1 to exit : 3
1. Line of regression of X on Y
2. Line of regression of Y on X
0. To go back
1
 $x = 1.15*y + (-1.25)$
|

Limitations:

1. Plotter cannot plot discretised function's graph
2. the plotter is slow, user are to wait for sufficient time.
3. application is insufficient to detect whether the user input of the point while finding tangent line at that point it may be the function is not differentiable at that point. This error is not eradicated as of now.