

1 Introduction

CrInGeCrInGeProduction.Supercringeintroductionhere :

2 Some basic knowledge about researching problem...

Parameters and constants we use in this work:

Constants (3):
e = 2.718282
pi = 3.141593
AbObA = 1337.228690

Variables (3):
a = 3.141500
kek = 13.000000
x = 1.000000

Parameters of exploration :
Number of differentiates = 2
Macloren’s accuracy = 3
Tangent point = 0.200000
Delta coverage of tangent point = 2.500000
Graph diapason = [−1 : 15]

So let’s calculate smth with a given function: $f(a, kek, x) = \cos(a + \frac{kek}{1.000^{AbObA}}) + \ln(1.000 + x \cdot kek \cdot (1.000^{(\ln e)} - 0.000))$

Firstly, let’s insert all constants: $f(a, kek, x) = \cos(a + \frac{kek}{1.000^{1337.229}}) + \ln(1.000 + x \cdot kek \cdot (1.000^{(\ln 2.718)} - 0.000))$

And simplify this expression (if possible): $f(a, kek, x) = \cos(a + kek) + \ln(1.000 + x \cdot kek)$

3 Exploration the expression as a function of multiple variables

Calculation value of function in the point BRITISH SCIENTISTS WERE SHOCKED, WHEN THEY COUNT IT!!!

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it’s value = 1.73157
Personally, I’ve always thought about first derivation of something like that function... Haven’t you?
But now, by using informatics and math skills I feel that I’m prepared enough to calculate it!

1 step: Finding a derivation of kek
While preparing for exams, I learned a lot of new things, for example:

$(kek)' = 1.000$
2 step: Finding a derivation of x
Only after two cups of beer you might understand it:

$(x)' = 1.000$
3 step: Finding a derivation of $x \cdot kek$
Never say it to girls:

$(x \cdot kek)' = kek + x$
4 step: Finding a derivation of 1.000
Only by using special skills we might know::

$(1.000)' = \dots = \text{[top secret]} = \dots = 0.000$
5 step: Finding a derivation of $1.000 + x \cdot kek$
What if:

$(1.000 + x \cdot kek)' = kek + x$
6 step: Finding a derivation of $\ln(1.000 + x \cdot kek)$
Even my two-aged sister knows that:

$(\ln(1.000 + x \cdot kek))' = \frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$
7 step: Finding a derivation of kek
The first task in MIPT was to calculate:

$(kek)' = 1.000$
8 step: Finding a derivation of a
Never say it to girls:

$(a)' = 1.000$
9 step: Finding a derivation of $a + kek$
It’s simple as fuck:

$(a + kek)' = \dots = \text{[top secret]} = \dots = 2.000$
10 step: Finding a derivation of $\cos(a + kek)$
As we know:

$(\cos(a + kek))' = 2.000 \cdot (-1.000) \cdot \sin(a + kek)$
11 step: Finding a derivation of $\cos(a + kek) + \ln(1.000 + x \cdot kek)$
I was asked not to tell anyone that:

$(\cos(a + kek) + \ln(1.000 + x \cdot kek))' = 2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$
Congratulations! The first derivation of the expression is:
 $f'(a, kek, x) = 2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$
In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it’s value = 1.84017

Finding the 2 derivation Let’s find the 1 derivation of the expression:

1 step: Finding a derivation of kek
Only after two cups of beer you might understand it:
 $(kek)' = \dots = \text{[top secret]} = \dots =$

= 1.000

2 step: Finding a derivation of x
Even my two-aged sister knows that:
 $(x)' =$
= 1.000

3 step: Finding a derivation of $x \cdot kek$
Even my two-aged sister knows that:
 $(x \cdot kek)' =$
= $kek + x$

4 step: Finding a derivation of 1.000
When I was a child, my father always told me: "Remember, son:
 $(1.000)' =$
= 0.000

5 step: Finding a derivation of $1.000 + x \cdot kek$
I have no words to describe this fact:
 $(1.000 + x \cdot kek)' = \dots = \text{[top secret]} = \dots =$
= $kek + x$

6 step: Finding a derivation of $\ln(1.000 + x \cdot kek)$
My roommate mumbled it in his sleep all night:
 $(\ln(1.000 + x \cdot kek))' = \dots = \text{[top secret]} = \dots =$
= $\frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$

7 step: Finding a derivation of kek
I have no words to describe this fact:
 $(kek)' = \dots = \text{[top secret]} = \dots =$
= 1.000

8 step: Finding a derivation of a
While preparing for exams, I learned a lot of new things, for example:
 $(a)' =$
= 1.000

9 step: Finding a derivation of $a + kek$
It's really easy to find:
 $(a + kek)' =$
= 2.000

10 step: Finding a derivation of $\cos(a + kek)$
What if:
 $(\cos(a + kek))' = \dots = \text{[top secret]} = \dots =$
= $2.000 \cdot (-1.000) \cdot \sin(a + kek)$

11 step: Finding a derivation of $\cos(a + kek) + \ln(1.000 + x \cdot kek)$
You should be aware of the fact that:
 $(\cos(a + kek) + \ln(1.000 + x \cdot kek))' =$
= $2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$

So the 1 derivation of the expression is:
 $2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$
Let's find **the 2 derivation** of the expression:
1 step: Finding a derivation of x
A true prince must know that:
 $(x)' =$
= 1.000

2 step: Finding a derivation of kek
For centuries, people have hunted for the secret knowledge that:
 $(kek)' =$
= 1.000

3 step: Finding a derivation of $kek + x$
I spend the hole of my life to find the answer and finally it's:
 $(kek + x)' = \dots = \text{[top secret]} = \dots =$
= 2.000

4 step: Finding a derivation of kek
Never say it to girls:
 $(kek)' =$
= 1.000

5 step: Finding a derivation of x
It's really easy to find:
 $(x)' =$
= 1.000

6 step: Finding a derivation of $x \cdot kek$
Sometimes I hear the same voice in my head, it always says:
 $(x \cdot kek)' = \dots = \text{[top secret]} = \dots =$
= $kek + x$

7 step: Finding a derivation of 1.000
Even my two-aged sister knows that:
 $(1.000)' =$
= 0.000

8 step: Finding a derivation of $1.000 + x \cdot kek$
Only by using special skills we might know::
 $(1.000 + x \cdot kek)' =$
= $kek + x$

9 step: Finding a derivation of 1.000
My friends always beat me, because I didn't know that:
 $(1.000)' = \dots = \text{[top secret]} = \dots =$
= 0.000

10 step: Finding a derivation of $\frac{1.000}{1.000+x \cdot kek}$
A true prince must know that:
 $(\frac{1.000}{1.000+x \cdot kek})' = \dots = \text{[top secret]} = \dots =$
= $\frac{(-1.000) \cdot (kek+x)}{(1.000+x \cdot kek)^{2.000}}$

11 step: Finding a derivation of $\frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$
Sometimes I hear the same voice in my head, it always says:
 $(\frac{1.000}{1.000+x \cdot kek} \cdot (kek + x))' =$
= $\frac{(-1.000) \cdot (kek+x)}{(1.000+x \cdot kek)^{2.000}} \cdot (kek + x) + 2.000 \cdot \frac{1.000}{1.000+x \cdot kek}$

12 step: Finding a derivation of kek

Only by using special skills we might know::

$(kek)' = \dots = \text{[top secret]} = \dots = 1.000$

13 step: Finding a derivation of a

While preparing for exams, I learned a lot of new things, for example:

$(a)' = 1.000$

14 step: Finding a derivation of $a + kek$

She: please, never speak with my dad about math... Me: ok) Also me after homework of matan:

$(a + kek)' = \dots = \text{[top secret]} = \dots = 2.000$

15 step: Finding a derivation of $\sin(a + kek)$

My roommate mumbled it in his sleep all night:

$(\sin(a + kek))' = \dots = \text{[top secret]} = \dots = 2.000 \cdot \cos(a + kek)$

16 step: Finding a derivation of -1.000

A true prince must know that:

$(-1.000)' = \dots = \text{[top secret]} = \dots = 0.000$

17 step: Finding a derivation of $(-1.000) \cdot \sin(a + kek)$

A true prince must know that:

$((-1.000) \cdot \sin(a + kek))' = (-1.000) \cdot 2.000 \cdot \cos(a + kek)$

18 step: Finding a derivation of 2.000

If someone asked me that in the middle of the night, I wouldn't hesitate to say:

$(2.000)' = 0.000$

19 step: Finding a derivation of $2.000 \cdot (-1.000) \cdot \sin(a + kek)$

When I was a child, my father always told me: "Remember, son:

$(2.000 \cdot (-1.000) \cdot \sin(a + kek))' = \dots = \text{[top secret]} = \dots = 2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos(a + kek)$

20 step: Finding a derivation of $2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$

thanks to the results of my colleagues' scientific work, I know that:

$(2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000+x \cdot kek} \cdot (kek + x))' = 2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos(a + kek) + \frac{(-1.000) \cdot (kek+x)}{(1.000+x \cdot kek)^{2.000}} \cdot (kek + x) + 2.000 \cdot \frac{1.000}{1.000+x \cdot kek}$

So the 2 derivation of the expression is:

$2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos(a + kek) + \frac{(-1.000) \cdot (kek+x)}{(1.000+x \cdot kek)^{2.000}} \cdot (kek + x) + 2.000 \cdot \frac{1.000}{1.000+x \cdot kek}$

Finally... The 2 derivation of the expression:

$f^{(2)}(a, kek, x) = 2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos(a + kek) + \frac{(-1.000) \cdot (kek+x)}{(1.000+x \cdot kek)^{2.000}} \cdot (kek + x) + 2.000 \cdot \frac{1.000}{1.000+x \cdot kek}$

BRITISH SCIENTISTS WERE SHOCKED AGAIN, WHEN THEY COUNT THE 2 DERIVATION OF THIS EXPRESSION!!!

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value = 2.77280

Finding partial derivations Partial derivation of the expression on the variable a:

$\frac{\partial f}{\partial a} = (-1.000) \cdot \sin(a + 13.000)$

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value = 0.42008 !!!

Partial derivation of the expression on the variable kek:

$\frac{\partial f}{\partial kek} = (-1.000) \cdot \sin(3.142 + kek) + \frac{1.000}{1.000+kek}$

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value = 0.49151 !!!

Partial derivation of the expression on the variable x:

$\frac{\partial f}{\partial x} = 13.000 \cdot \frac{1.000}{1.000+13.000 \cdot x}$

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value = 0.92857 !!!

Finding full derivation Full derivation:

$\sqrt{((-1.000) \cdot \sin(a + 13.000))^{2.000} + ((-1.000) \cdot \sin(3.142 + kek) + \frac{1.000}{1.000+kek})^{2.000} + (13.000 \cdot \frac{1.000}{1.000+13.000 \cdot x})^{2.000}}$

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value = 1.13150 !!!

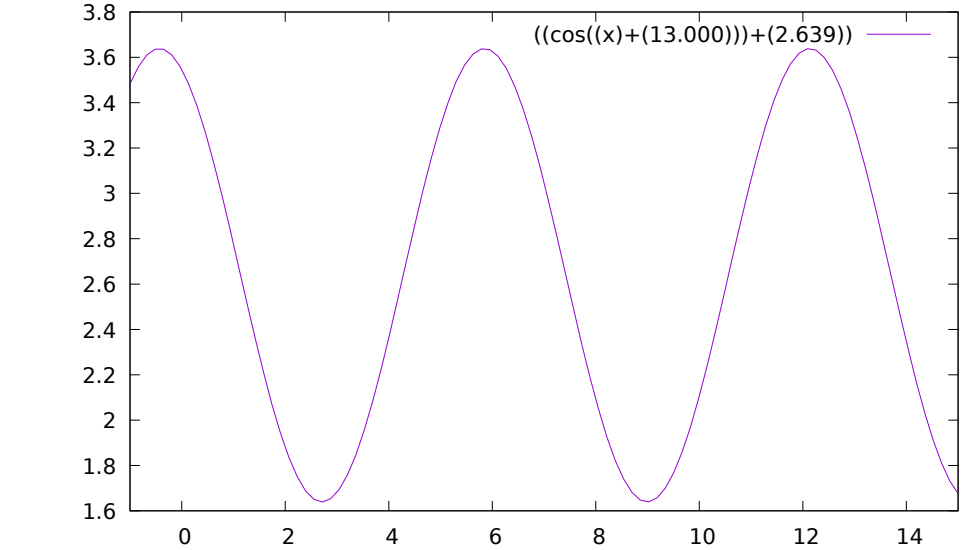
4 Exploration the expression as a function of the first variable

Now let's consider the expression as a function of the first variable a: $f(a) = \cos(a + 13.000) + 2.639$

Decomposing on Macloren's formula Maklorens formula for $a \rightarrow a_0 = 3.142$:

$f(a) = 1.732 + 0.420 \cdot (a - 3.142) + 0.454 \cdot (a - 3.142)^{2.000} + (-0.070) \cdot (a - 3.142)^{3.000} + o((a - 3.142)^{3.000})$

Graphics Graph $f(a) = \cos(a + 13.000) + 2.639$ on the diapasone $a \in [-1 : 15]$:



Equations in the point Tangent equation in the point $a_0 = 0.200$:

$f(a) = (-0.592) \cdot (a - 0.200) + 3.445$

Normal equation in the point $a_0 = 0.200$:

$f(a) = 1.689 \cdot (a - 0.200) + 3.445$

Their graphs in $\delta = 2.50000$ coverage of the point $a_0 = 0.200000$



5 Conclusion

Ultrarcringeconclusionhere :