

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
Tanget point = 0.200000
Delta coverage of tangent point = 2.500000
Graph diapasone = [-1 : 15]

So let's calculate smth with a given function:

f(a, kek, x) = cos(a + kek / 1.000AbObA) + ln(1.000 + x · kek · (1.000ln e - 0.000))

Firstly, let's insert all constants:

f(a, kek, x) = cos(a + kek / 1.0001337.229) + ln(1.000 + x · kek · (1.000ln 2.718) - 0.000))

And simplify this expression (if possible):

f(a, kek, x) = cos(a + kek) + ln(1.000 + x · 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 M0(a0, kek0, x0) = (3.142, 13.000, 1.000) expression's value = 1.73157

- The first derivation of function

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 · kek
Never say it to girls:
(x · kek)' =
= kek + x
4 step: Finding a derivation of 1.000
Only by using special skills we might know::
(1.000)' = ... = [top secret] = ... =
= 0.000
5 step: Finding a derivation of 1.000 + x · kek
What if:
(1.000 + x · kek)' =
= kek + x
6 step: Finding a derivation of ln(1.000 + x · kek)
Even my two-aged sister knows that:
(ln(1.000 + x · kek))' =
= 1.000 / (1.000 + x · kek) · (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)' = ... = [top secret] = ... =
= 2.000
10 step: Finding a derivation of cos(a + kek)
As we know:
(cos(a + kek))' =
= 2.000 · (-1.000) · sin(a + kek)
11 step: Finding a derivation of cos(a + kek) + ln(1.000 + x · 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 partical 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 **Maklorems 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 $a \in [-1 : 15]$:



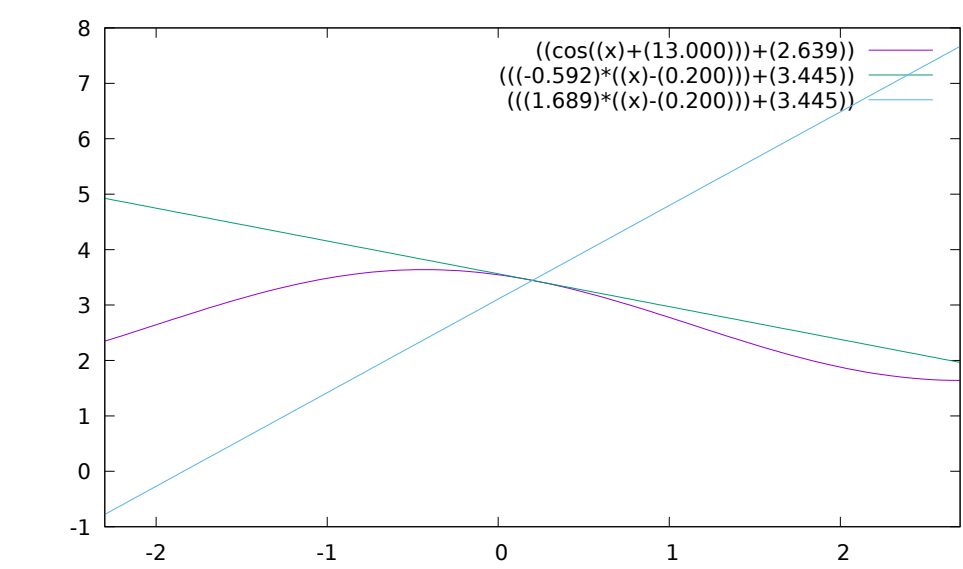
Equations in the point **Tangent equation** in the point $a_0 = 0.200$:

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

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 :