1 Introduction

CrIn GeCrIn GeProduction. Supercringe introduction here:

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\left(a + \frac{kek}{1.000^{AbObA}}\right) + \ln\left(1.000 + x \cdot kek \cdot (1.000^{(\ln e)} - 0.000)\right)
```

Firstly, let's insert all constants:

$$f(a, kek, x) = \cos\left(a + \frac{kek}{1.000^{1337.229}}\right) + \ln\left(1.000 + x \cdot kek \cdot (1.000^{(\ln 2.718)} - 0.000)\right)$$

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 a 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) expression's value = 1.73157
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- Finding 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 $x \cdot kek$

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::

$$(1.000)' = \dots = [top secret] = \dots =$$
= 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:

$$(\cos\left(a + kek\right))' =$$

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

11 step: Finding a derivation of $\cos(a + kek) + \ln(1.000 + x \cdot kek)$

I was asked not to tell anyone that:

$$(\cos{(a+kek)} + \ln{(1.000 + x \cdot kek)})' =$$

$$= 2.000 \cdot (-1.000) \cdot \sin \left(a + kek \right) + \frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x)$$

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

1) Let's find the 1 derivation of the given function:

1 step: Finding a derivation of kek

Only after two cups of beer you might understand it:

$$(kek)' = \dots = [top secret] = \dots =$$

= 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:

$$(1.000)' =$$

= kek + x

= 0.000

5 step: Finding a derivation of $1.000 + x \cdot kek$

I have no words to describe this fact:

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

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:

$$(kek)' = ... = [top secret] = ... =$$
= 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 · (-1.000) · 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:

$$\begin{aligned} &(\cos{(a+kek)} + \ln{(1.000 + x \cdot kek)})' = \\ &= 2.000 \cdot (-1.000) \cdot \sin{(a+kek)} + \frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x) \end{aligned}$$

So the 1 derivation of the function is:

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

2) Let's find the 2 derivation of the given function:

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:

$$(kek + x)' = \dots = [top secret] = \dots =$$

= 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:

$$(x \cdot kek)' = \dots = [top secret] = \dots =$$

= 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:: $% \left\{ 1,2,\ldots ,n\right\} =0$

$$(1.000 + x \cdot kek)' =$$

= kek + x

9 step: Finding a derivation of 1.000

My friends always beat me, because I didn't know that:

$$(1.000)' = \dots = [top secret] = \dots =$$

= 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:

$$\begin{aligned} & \left(\frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x) \right)' = \\ & = \frac{(-1.000) \cdot (kek + x)}{(1.000 + x \cdot kek)^{2.000}} \cdot (kek + x) + 2.000 \cdot \frac{1.000}{1.000 + x \cdot kek} \end{aligned}$$

12 step: Finding a derivation of kek

Only by using special skills we might know::

$$(kek)' = ... = [top secret] = ... =$$
= 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:

$$(a + kek)' = \dots = [top secret] = \dots =$$
= 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:

$$(-1.000)' = \dots = [top secret] = \dots =$$
= 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 function 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:

$$f^{(2)}(\mathbf{a},\, \mathrm{kek},\, \mathbf{x}) = 2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos{(a+kek)} + \frac{(-1.000) \cdot (kek+x)}{(1.000+x \cdot kek)^{2.000}} \cdot (kek+x) + 2.000 \cdot \frac{1.000}{1.000+x \cdot kek} \cdot (kek+x) + 2.000 \cdot \frac{1.000}{1.00$$

BRITISH SCIENTISTS WERE SHOCKED AGAIN, BECAUSE THEY COUNT THE 2 DERIVATION OF THIS FUNCTION!!!

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**:

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

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 \mathbf{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:

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

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

In this part of the article let's consider the expression as a function of the first variable a:

$$f(a) = \cos(a + 13.000) + 2.639$$

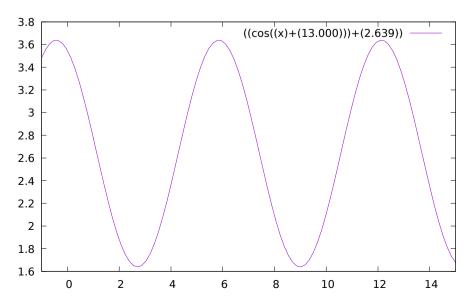
Decomposing on Macloren's formula

Maklorens formula for $a \rightarrow a_0 = 3.142$:

$$f(a) = 1.732 + 0.420 \cdot (a - 3.142) + 0.454 \cdot (a - 3.142)^{2.000} + (-0.070) \cdot (a - 3.142)^{3.000} + o((a - 3.142)^{3.000}) + o((a - 3.142)^{3.00$$

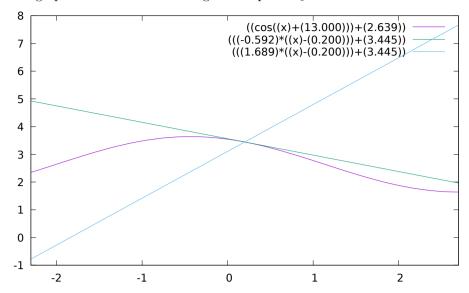
Graphics

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 was being $a_0 = 0.2000$ as well as $a_0 = 0.20000$

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



Conclusion $\mathbf{5}$

Ultrar cringe conclusion here: