

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 +  $\frac{kek}{1.000^{AbObA}}$ ) + ln (1.000 + x · kek · (1.000<sup>(ln e)</sup> - 0.000))  
Firstly, let's insert all constants: f(a, kek, x) = cos (a +  $\frac{kek}{1.000^{1337.229}}$ ) + ln (1.000 + x · kek · (1.000<sup>(ln 2.718)</sup> - 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  $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$  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

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

(kek)' =

= 1.000

2 step: Finding a derivation of x

What if:

(x)' =

= 1.000

3 step: Finding a derivation of x · kek

It's really easy to find:

(x · kek)' =

= kek + x

4 step: Finding a derivation of 1.000

Sounds logical that it is the same as:

(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)

Sounds logical that it is the same as:

(ln (1.000 + x · kek))' =

=  $\frac{1.000}{1.000+x\cdot kek} \cdot (kek + x)$

7 step: Finding a derivation of kek

Even my two-aged sister knows that:

(kek)' =

= 1.000

8 step: Finding a derivation of a

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

(a)' =

= 1.000

9 step: Finding a derivation of a + kek

My roommate mumbled it in his sleep all night:

(a + kek)' = ... = [top secret] = ... =

= 2.000

10 step: Finding a derivation of cos (a + kek)

Man... Just look:

(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 · kek))' =

= 2.000 · (-1.000) · 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 · (-1.000) · 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

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

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

= 1.000

2 step: Finding a derivation of x

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

(x)' =

= 1.000

3 step: Finding a derivation of  $x \cdot kek$   
A true prince must know that:  
 $(x \cdot kek)' =$   
 $= kek + x$   
4 step: Finding a derivation of 1.000  
If someone asked me that in the middle of the night, I wouldn't hesitate to say:  
 $(1.000)' =$   
 $= 0.000$   
5 step: Finding a derivation of  $1.000 + x \cdot kek$   
What if:  
 $(1.000 + x \cdot kek)' = \dots = \text{[top secret]} = \dots =$   
 $= kek + x$   
6 step: Finding a derivation of  $\ln(1.000 + x \cdot kek)$   
thanks to the results of my colleagues' scientific work, I know that:  
 $(\ln(1.000 + x \cdot kek))' = \dots = \text{[top secret]} = \dots =$   
 $= \frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$   
7 step: Finding a derivation of  $kek$   
While preparing for exams, I learned a lot of new things, for example:  
 $(kek)' = \dots = \text{[top secret]} = \dots =$   
 $= 1.000$   
8 step: Finding a derivation of  $a$   
It's really easy to find:  
 $(a)' =$   
 $= 1.000$   
9 step: Finding a derivation of  $a + kek$   
If someone asked me that in the middle of the night, I wouldn't hesitate to say:  
 $(a + kek)' =$   
 $= 2.000$   
10 step: Finding a derivation of  $\cos(a + kek)$   
I spend the hole of my life to find the answer and finally it's:  
 $(\cos(a + kek))' = \dots = \text{[top secret]} = \dots =$   
 $= 2.000 \cdot (-1.000) \cdot \sin(a + kek)$   
11 step: Finding a derivation of  $\cos(a + kek) + \ln(1.000 + x \cdot kek)$   
I spend the hole of my life to find the answer and finally it's:  
 $(\cos(a + kek) + \ln(1.000 + x \cdot kek))' =$   
 $= 2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$   
Let's find **the 2 derivation** of the expression:  
1 step: Finding a derivation of  $x$   
For centuries, people have hunted for the secret knowledge that:  
 $(x)' =$   
 $= 1.000$   
2 step: Finding a derivation of  $kek$   
A true prince must know that:  
 $(kek)' =$   
 $= 1.000$   
3 step: Finding a derivation of  $kek + x$   
I was asked not to tell anyone that:  
 $(kek + x)' = \dots = \text{[top secret]} = \dots =$   
 $= 2.000$   
4 step: Finding a derivation of  $kek$   
While preparing for exams, I learned a lot of new things, for example:  
 $(kek)' =$   
 $= 1.000$   
5 step: Finding a derivation of  $x$   
I was asked not to tell anyone that:  
 $(x)' =$   
 $= 1.000$   
6 step: Finding a derivation of  $x \cdot kek$   
Man... Just look:  
 $(x \cdot kek)' = \dots = \text{[top secret]} = \dots =$   
 $= kek + x$   
7 step: Finding a derivation of 1.000  
A true prince must know that:  
 $(1.000)' =$   
 $= 0.000$   
8 step: Finding a derivation of  $1.000 + x \cdot kek$   
Man... Just look:  
 $(1.000 + x \cdot kek)' =$   
 $= kek + x$   
9 step: Finding a derivation of 1.000  
It's really easy to find:  
 $(1.000)' = \dots = \text{[top secret]} = \dots =$   
 $= 0.000$   
10 step: Finding a derivation of  $\frac{1.000}{1.000+x \cdot kek}$   
My roommate mumbled it in his sleep all night:  
 $(\frac{1.000}{1.000+x \cdot kek})' = \dots = \text{[top secret]} = \dots =$   
 $= \frac{(-1.000) \cdot (kek+x)}{(1.000+x \cdot kek)^{2.000}}$   
11 step: Finding a derivation of  $\frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$   
It's simple as fuck:  
 $(\frac{1.000}{1.000+x \cdot kek} \cdot (kek + x))' =$   
 $= \frac{(-1.000) \cdot (kek+x)}{(1.000+x \cdot kek)^{2.000}} \cdot (kek + x) + 2.000 \cdot \frac{1.000}{1.000+x \cdot kek}$   
12 step: Finding a derivation of  $kek$   
A true prince must know that:  
 $(kek)' = \dots = \text{[top secret]} = \dots =$   
 $= 1.000$   
13 step: Finding a derivation of  $a$   
It's really easy to find:  
 $(a)' =$   
 $= 1.000$

14 step: Finding a derivation of  $a + kek$   
My roommate mumbled it in his sleep all night:  
 $(a + kek)' = \dots = \text{[top secret]} = \dots =$   
 $= 2.000$   
15 step: Finding a derivation of  $\sin(a + kek)$   
A true prince must know that:  
 $(\sin(a + kek))' = \dots = \text{[top secret]} = \dots =$   
 $= 2.000 \cdot \cos(a + kek)$   
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  $(-1.000) \cdot \sin(a + kek)$   
Sounds logical that it is the same as:  
 $((-1.000) \cdot \sin(a + kek))' =$   
 $= (-1.000) \cdot 2.000 \cdot \cos(a + kek)$   
18 step: Finding a derivation of  $2.000$   
I was asked not to tell anyone that:  
 $(2.000)' =$   
 $= 0.000$   
19 step: Finding a derivation of  $2.000 \cdot (-1.000) \cdot \sin(a + kek)$   
My friends always beat me, because I didn't know that:  
 $(2.000 \cdot (-1.000) \cdot \sin(a + kek))' = \dots = \text{[top secret]} = \dots =$   
 $= 2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos(a + kek)$   
20 step: Finding a derivation of  $2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000+x \cdot kek} \cdot (kek + x)$   
My roommate mumbled it in his sleep all night:  
 $(2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000+x \cdot kek} \cdot (kek + x))' =$   
 $= 2.000 \cdot (-1.000) \cdot 2.000 \cdot \cos(a + kek) + \frac{(-1.000) \cdot (kek+x)}{(1.000+x \cdot kek)^{2.000}} \cdot (kek + x) + 2.000 \cdot \frac{1.000}{1.000+x \cdot kek}$   
**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 !!!

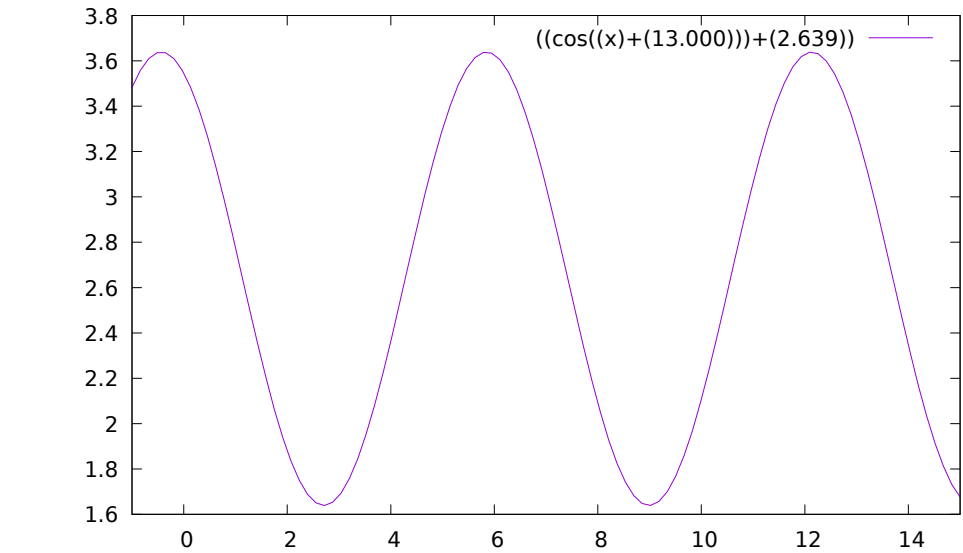
**Finding full derivation** Full derivation:  
 $\sqrt{((-1.000) \cdot \sin(a + 13.000))^{2.000} + ((-1.000) \cdot \sin(3.142 + kek) + \frac{1.000}{1.000+kek})^{2.000} + (13.000 \cdot \frac{1.000}{1.000+13.000 \cdot x})^{2.000}}$   
In the point  $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$  it's 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** 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  $a_0 = 0.200000$

