Numerical Methods

**Report**

Date of the exercise: **11/04/2019**

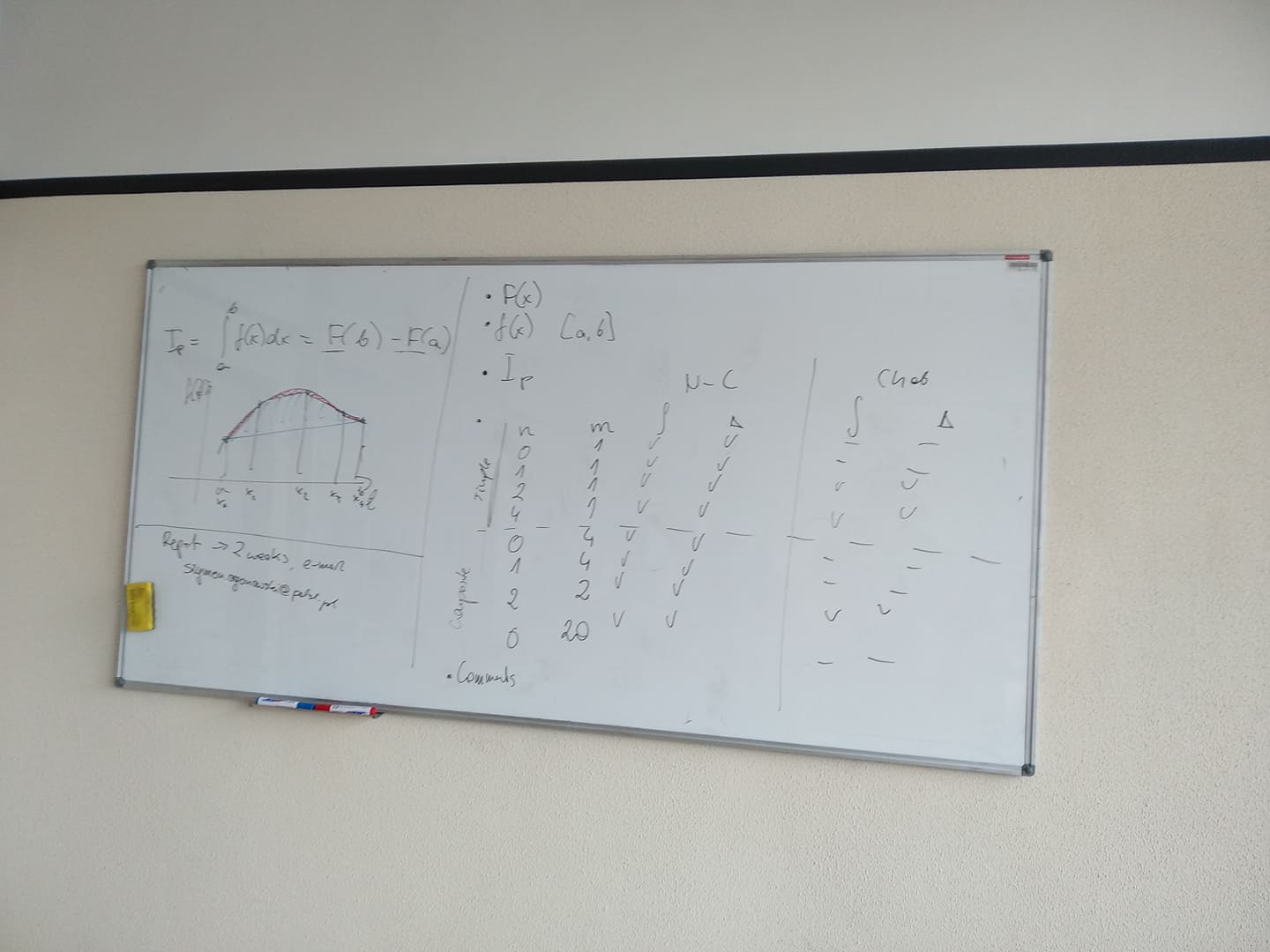
Exercise: **Integration**

Group: 2, Team:

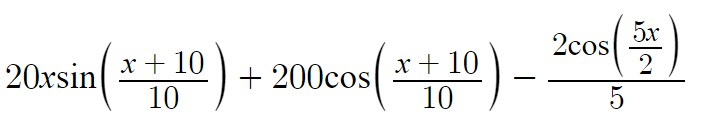
Subsection (names):

1. Mateusz Nowotnik

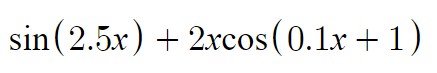
2. Dawid Tomala



1. F(x) = 20\*x\*sin((x+10)/10)+200\*cos((x+10)/10)-((2\*cos((5\*x)/2))/(5))

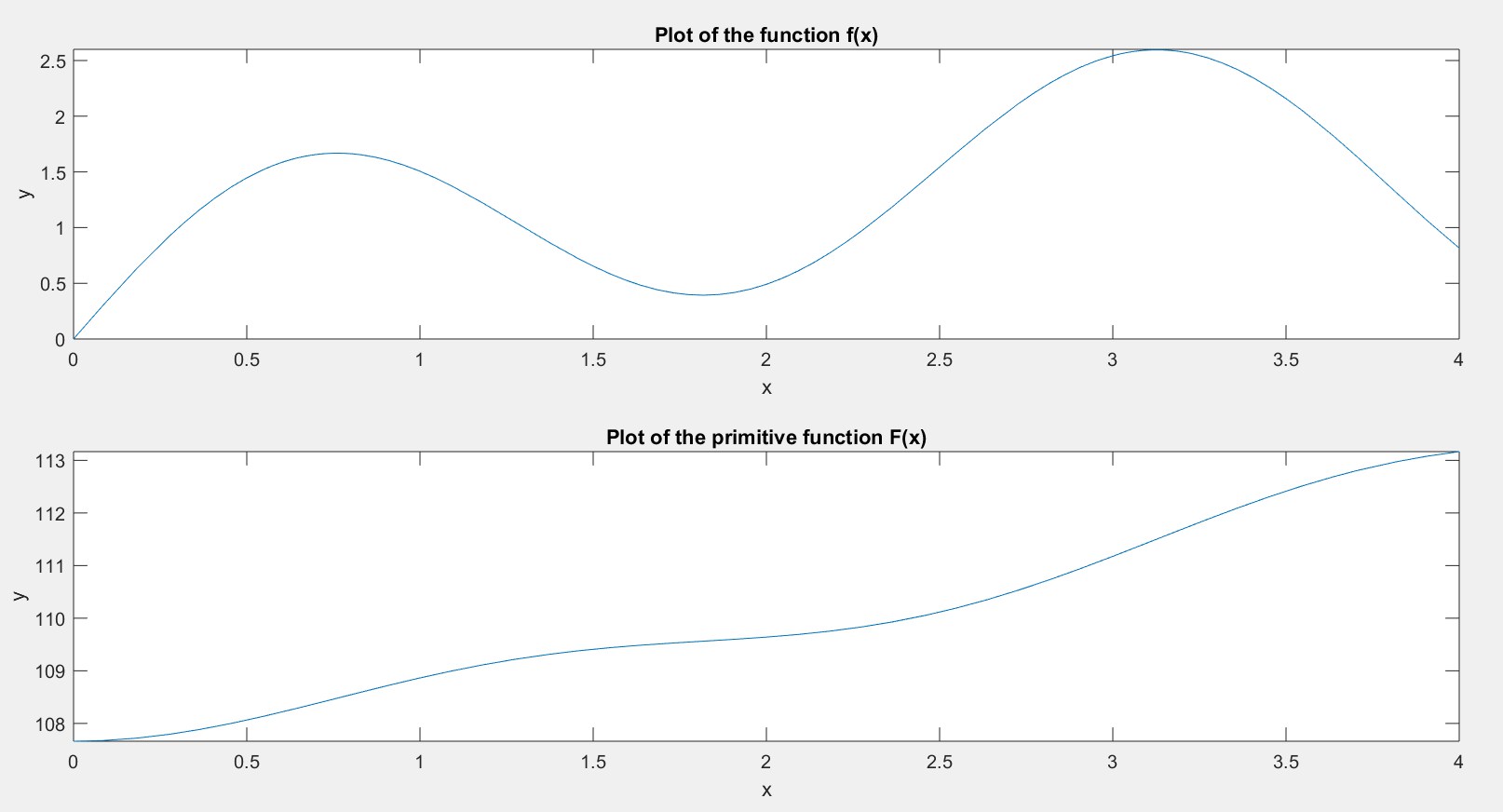


2. f(x) = sin(2.5\*x)+2\*x\*cos(0.1\*x+1), interval [0, 4]



3. F(b) – F(a) = 5.5046

4. Ploty



5. Kod z matlaba

syms x

a = 0;

b = 4;

f = @(x)sin(2.5.\*x)+2.\*x.\*cos((0.1.\*x)+1);

F = @(x)20.\*x.\*sin((x+10)/10)+200.\*cos((x+10)/10)-((2.\*cos((5.\*x)/2))/(5));

subplot(2,1,1)

fplot(f, [a b])

xlabel('x')

ylabel('y')

title('Plot of the function f(x)')

subplot(2,1,2)

fplot(F, [a b])

xlabel('x')

ylabel('y')

title('Plot of the primitive function F(x)')

PreciseIntegral = feval(F, b) - feval(F, a)

6. kod z main.cpp (można wkleic do: <http://www.planetb.ca/syntax-highlight-word>)

7. Output z consoli

8. Summary