

Corrigés bac pratique informatique
Sections Science de l'informatique
23 Mai 2013 (8h30)

Corrigé Sujet le 23 Mai 2013 à 8h30

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program aires_23_05_2013_8h;
uses wincrt;
const
a=0;
b=3;
type
tenreg= record
rect:real;
trap:real;
nb:integer;
end;
tf=file of tenreg;
var
f:tf;
v:tenreg;
eps:real;
rep:integer;
{*****}
function fct (x:real):real;
begin
    fct:=sqr(x);
end;
{*****}
procedure epsilon (var eps:real);
begin
    repeat
        write(' taper une valeur pour epsilon:');r
eadln(eps);
        until (eps>=0.0001) and (eps<=0.1);
    end;
{*****}
function rectangle ( n:integer):real;
var
x, h,S:real;
i:integer;
begin
    S:=0;
    h:=(b-a)/n;
    x:=(a+h/2);
    for i:=1 to n do
        begin

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            S:=S+fct(x);
            x:=x+h;
            end;
            rectangle:=s*h;
        end;
    {*****}
function trapeze ( n:integer):real;
var
x, h,S:real;
i:integer;
begin
    h:=(b+a)/n;
    s:=(fct(a)+fct(a+h))/2;
    x:=a;
    for i:=1 to n-1 do
        begin
            x:=x+h;
            S:=S+(fct(x)+fct(x+h))/2;
        end;
    trapeze:=s*h;
end;
{*****}
***}
procedure trait (var f:tf; eps:real; var rep:integ
er);
var
n:integer;
v:tenreg;
Dif1,dif2,A1,A2:real;
begin
    reset(f);
    n:=1;
    repeat
        n:=n+1;
        A1:=rectangle(n);
        A2:=trapeze(n);
        v.nb:=n;
        V.rect:=A1;
        v.trap:=A2;
        write(f,v);
        dif1:=abs(rectangle(n)-rectangle(n-1));
        dif2:=abs(trapeze(n)-trapeze(n-1));
    until (dif1<eps) and (dif2<eps);
end;

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    writeln('n=',n, A1:9:5, A2:9:5);readln;
    until (dif1<=eps)or(dif2<=eps);
    {if (dif1<dif2) then rep:=1
    else if (dif2<dif1) then rep:=2
    else rep:=3;}
    if (dif1<eps) then rep:=1;
    if (dif2<eps) then rep:=2;

    writeln('la methode est ',rep);
    close(f);
end;
{*****
***}
procedure afficher (var f:tf; rep:integer);
var
v:tenreg; mes:string;
begin
writeln('***N***', '*Rectangle*', '*trapeze*');
reset(f);
while not(eof(f))do
begin
    read(f,v);
    writeln(v.nb,v.rect:9:5,v.trap:9:5);
end;
if rep=1 then mes:='Med des rectangles'
else if rep=2 then mes:='Med des trapèzes'
else mes:='Exéquo';
    writeln('la methode qui converge la première
est :',mes);
end;
BEGIN
assign(f,'c:\calcul.dat');
rewrite(f);
repeat
epsilon(eps);
writeln(rectangle(5));
trait(f,eps,rep);
afficher(f,rep);
until keypressed;
END.

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