|  |
| --- |
| /////////////////////METODO DE BISECCION //////////////////////////////////////////7 |
| //////////////F=XEXP(X)-PI [A=0,B=2] |
|  |
|  |
| fa -3.14159 |
| fb 11.6365 |
| c 1 fc -0.423311 |
| c 1.5 fc 3.58094 |
| c 1.25 fc 1.22134 |
| c 1.125 fc 0.323651 |
| c 1.0625 fc -0.067147 |
| c 1.09375 fc 0.123742 |
| c 1.07812 fc 0.0271929 |
| c 1.07031 fc -0.0202503 |
| c 1.07422 fc 0.00340267 |
| c 1.07227 fc -0.00844092 |
| c 1.07324 fc -0.00252341 |
| c 1.07373 fc 0.000438557 |
| c 1.07349 fc -0.0010427 |
| c 1.07361 fc -0.000302136 |
| c 1.07367 fc 6.81937e-05 |
| c 1.07364 fc -0.000116975 |
| c 1.07365 fc -2.43919e-05 |
| c 1.07366 fc 2.19007e-05 |
| c 1.07366 fc -1.24565e-06 |
| c 1.07366 fc 1.03275e-05 |
| c 1.07366 fc 4.54092e-06 |
| c 1.07366 fc 1.64763e-06 |
| c 1.07366 fc 2.00987e-07 |
| c 1.07366 fc -5.22334e-07 |
| c 1.07366 fc -1.60673e-07 |
| c 1.07366 fc 2.01571e-08 |
| c 1.07366 fc -7.0258e-08 |
| c 1.07366 fc -2.50504e-08 |
| c 1.07366 fc -2.44666e-09 |
| la raiz esta en 1.07366 |
|  |
| ////////////////////////////////////////////// CODIGO ////////////////////////////////////////////////////////////////// |
|  |
|  |
| #include <iostream> |
| #include <math.h> |
|  |
| using namespace std; |
|  |
| int main() |
| { |
| long double a,b,c; |
| long double fa,fb,fc; |
| a=0; |
| b=2; |
| c=0; |
| fa=(a\*exp(a))-M\_PI; cout<<"fa "<<fa<<endl; |
| fb=(b\*exp(b))-M\_PI; cout<<"fb "<<fb<<endl; |
| fc=999; |
| int con=0; |
|  |
| while(!(fc>-0.00000001 && fc<0.00000001)){ |
| con++; |
| if((fa\*fb)<0){ |
| //cout<<"si hay raiz entre "<<a<<" y "<<b<<endl; |
|  |
| c=(a+b)/2; cout<<"c "<<c; |
| fc=(c\*exp(c))-M\_PI; cout<<" fc "<<fc<<endl; |
|  |
| if((fa\*fc)<0){ |
| // cout<<"si hay raiz entre a y c "<<a<<" y "<<c<<endl; |
| fb=fc; |
| b=c; |
| } |
| if((fb\*fc)<0){ |
| // cout<<"si hay raiz entre b y c "<<b<<" y "<<c<<endl; |
| fa=fc; |
| a=c; |
| } |
| } |
|  |
| } |
| cout<<"la raiz esta en " << c; |
|  |
| return 0; |
| } |