

NOMBRE – > CHRISTOFER FABIÁN CHÁVEZ CARAZAS

1. Código

```
#include <iostream>
#include <cmath>
#include "OperacionesMatriz.h"

using namespace std;

Num buscarMayor(Lista & b){
    Num res = -1;
    for(auto iter = b.begin(); iter != b.end(); iter++){
        if(abs(*iter) > res or res == -1) res = abs(*iter);
    }
    return res;
}

void MetodoPotencias(int iteraciones, Matriz & m, Lista ini){
    Lista u;
    Lista v = ini;
    for(int i = 0; i < iteraciones; i++){
        u = m * v;
        Num dominante = buscarMayor(u);
        v = u * (1.0 / dominante);
        cout<<"-----U_ "<<i+1<<"-----"<<endl;
        mostrarLista(u);
        cout<<"-----V_ "<<i+1<<"-----"<<endl;
        mostrarLista(v);
    }
}

int main(int argc, char * argv[]){
    if(argc != 2){
        cout<<"Faltan argumentos: <numIteraciones>"<<endl;
        return 0;
    }
    string temp(argv[1]);
    int it = stoi(temp);
    Matriz m = {{3,-1,0},{-1,2,-1},{0,-1,3}};
    Lista ini = {1,1,1};
    MetodoPotencias(it,m,ini);
}
```

2. Resultados

```
xnplo@xnplo-Satellite-U49t-A:~/Documentos/Xnplo/MPotencia$ ./run 10
-----U_1-----
0
0
0
-----V_1-----
1
0
1
-----U_2-----
3
-2
3
-----V_2-----
-0.666667
1
1
-----U_3-----
3.66667
-3.33333
3.66667
-----V_3-----
1
-0.909091
1
-----U_4-----
3.90909
-3.81818
3.90909
```

-----V_4-----
1
-0.976744
1
Recently Used
1
0 1b Σ € { } : lg
-----U_5-----
3.97674
-3.95349
3.97674
-----V_5-----
1
-0.994152
1
-----U_6-----
3.99415
-3.9883
3.99415
-----V_6-----
1
-0.998536
1
Arrows
-----U_7-----
3.99854
-3.99707
3.99854
Deimiters
-----V_7-----
1
-0.999634
1
Characters
1
Cyrillic Characters
1
Cyrillic Characters

Close Save Save As Undo Redo

Files and Projects

Structure

LaTeX

doctex

```

showstringspace;
extendedchars=f;
breaklines=true;
prebreak = \rai;
frame=single;
showtabs=false;
showspaces=false;
showstringspace;
identifierstyle=
keywordstyle=\ci
commentstyle=\ci
stringstyle=\cal
numberstyle=\cal
\listdefinestyl
}
}

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\section{Código}

\begin{lstlisting}
\include <iostrstream>
\include <cmath>
\include "OperacionesMat

using namespace std;

int buscarMayor(Lista &
    int res = -1;

```

Log and Messages

-----U_8-----
3.99963
-3.99927
3.99963
-----V_8-----
1
-0.999908
1
-----U_9-----
3.99991
-3.99982
3.99991
-----V_9-----
1
-0.999977
1
Arrows
-----U_10-----
3.99998
-3.99995
3.99998
Deimiters
-----V_10-----
1
-0.999994
1
Characters
1
Cyrillic Characters
1
Cyrillic Characters

Close Save Save As Undo Redo

Files and Projects

Structure

LaTeX

doctex

```

extensoesca
breaklines
prebreak =
frame=sing
showtabs=f
showspaces
showstring
identifier
keywordsty
commentsty
stringsty
numbersty
\listdefin
}
}

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