\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Report: HW2\_1

Author: C24089036 楊佳恩 <[charles870126@gmail.com](mailto:charles870126@gmail.com)>

Class: 物理系

Description:

How do you finish this homework? 題目有教啊

What did you learned from this homework? 用牛頓根值法寫程式

Did you do or write something special for bonus? 一樣是防呆

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Code:

#include <stdio.h>

#include <stdlib.h>

int main(int argc, char \*argv[])

{

double x0, x1;

int a, i, c;

if(argc <= 2)

printf("no argument\n");

else if(argc > 3)

printf("too many argument\n");

else{

a = (int)atoi(argv[1]);

i = (int)atoi(argv[2]);

x1 = 1;

for(c = 0; c < i; c++)

{

x0 = x1;

x1 = 0.5\*(x1 + a/x1);

printf("x1=%.10lf\n", x1);

}

}

return 0;

}

Compilation:

gcc hw2\_1.c -o hw2\_1

Execution:

./hw2\_1 101 5

Output:

x1=51.0000000000

x1=26.4901960784

x1=15.1514636943

x1=10.9087431666

x1=10.0836858158

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Report: HW2\_2

Author: C24089036 楊佳恩 <[charles870126@gmail.com](mailto:charles870126@gmail.com)>

Class: 物理系

Description:

How do you finish this homework? 股歌大神

What did you learned from this homework? 利用for迴圈連乘

Did you do or write something special for bonus? 還是防呆

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Code:

#include <stdio.h>

#include <stdlib.h>

int main(int argc, char \*argv[])

{

double Xn, i;

int n, x;

if(argc <= 1)

printf("no argument\n");

else if(argc > 2)

printf("too many argument\n");

else{

n = (int)atoi(argv[1]);

for(i = 1; i <= n ; i++)

{

Xn = 1;

for(x = 1; x <= i; x++)

Xn \*= (1 + 1/i);

printf("%.10lf\n", Xn);

}

}

return 0;

}

Compilation:

gcc hw2\_2.c -o hw2\_2

Execution:

./hw2\_2 6

Output:

2.0000000000

2.2500000000

2.3703703704

2.4414062500

2.4883200000

2.5216263717

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Report: HW2\_3

Author: C24089036 楊佳恩 <[charles870126@gmail.com](mailto:charles870126@gmail.com)>

Class: 物理系

Description:

How do you finish this homework? 股歌大神

What did you learned from this homework? 利用for迴圈連加和製造階乘

Did you do or write something special for bonus? 防手抖

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Code:

#include <stdio.h>

#include <stdlib.h>

int main(int argc, char \*argv[])

{

double Xn = 1, j, k = 1;

int n, i;

if(argc <= 1)

printf("no argument\n");

else if(argc > 2)

printf("too many argument\n");

else{

n = (int)atoi(argv[1]);

for(i = 1 ; i <= n ; i++)

{

for(j=i ; j>0 ; j--)

k \*= j;

Xn += 1/k;

printf("Xn=%.10lf\n", Xn);

k = 1;

}

}

return 0;

}

Compilation:

gcc hw2\_3.c -o hw2\_3

Execution:

./hw2\_3 5

Output:

Xn=2.0000000000

Xn=2.5000000000

Xn=2.6666666667

Xn=2.7083333333

Xn=2.7166666667