費式數列

(迴圈)

# include <stdlib.h>

# include <stdio.h>

int main(){

int n, i, n\_2=0, n\_1=1, fib;

while(1){

printf("The 0th number is 0, and the first number is 1\n");

printf("ex : 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233 ...\n\n");

printf("Please input an integer to show the last value of Fibonacci Sequence :\n");

scanf("%d", &n);

printf("\n");

if (n == 0)

fib = n\_2;

else if (n == 1)

fib = n\_1;

else{

for (i=2; i<=n; i++) {

fib = n\_2 + n\_1;

n\_2 = n\_1;

n\_1 = fib;

}

n\_2 = 0;

n\_1 = 1;

}

printf("The Fibonacci Sequence is %d\n\n", fib);

system("PAUSE");

system("CLS");

}

return 0;

}

(迭代)

# include <stdlib.h>

# include <stdio.h>

int fib(int n){

if(n==0)

return 0;

if(n==1)

return 1;

return (fib(n-1)+fib(n-2));

}

int main(){

int input, i;

while(1){

printf("The 0th number is 0, and the first number is 1\n");

printf("ex : 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233 ...\n\n");

printf("Please input an integer to show the last value of Fibonacci Sequence :\n");

scanf("%d", &input);

printf("\n");

if(input<0)

printf("\nInput cannot less than 0\n\n");

else{

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

printf("%d ", fib(i));

}

printf("\n\n");

system("PAUSE");

system("CLS");

}

return 0;

}