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N00901846

6.49

The value of e is to be estimated using a formula. The program will continue to run until the difference between two successive values of e differs by less than 0.0000001.

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#include <stdio.h>

float calculateNFac (int x);

int main(){

int n = 0;

double finalNum1 = 10;

double finalNum2 = 20;

while (finalNum2 - finalNum1 > 0.0000001){

finalNum1 = 0;

finalNum2 = 0;

for(int i = 0; i <= n; i++) {

finalNum1 += (1/calculateNFac(i));

}

for(int j = 0; j <= n+1; j++){

finalNum2 += (1/calculateNFac(j));

}

n++;

}

printf("floatnum1 = %.9f \n", finalNum1);

printf("floatnum2 = %.9f \n", finalNum2);

printf("%d %d \n",n-2, n-1);

return 0;

}

float calculateNFac (int x){

if((x == 0) || (x == 1)){

return 1;

}else{

return (x\*calculateNFac(x-1));

}

}