Q1 Kiem tra SNT ( prime number)

Q2 Kiem tra so chinh phuong

Q3 In ra k so chinh phuong dau tien

Q4 In ra k so nguyen to dau tien

Q5 Check nam nhuan (leap year)

Q6 Check amstrong

Q7 check perfect number

Q8 check power of 2

Q9 Check square number (so binh phuong)

Q10 Check luy thua

Q11 Kiem tra in ra so lan xuan hien cua cua phan tu trong mang tu nhap

Q12 check mang tang dan

Q13 check mang doi xung

Q14 check xem so co thuoc day Fibonacci hay ko

Q15 check so thuan nghich

// Q1 Kiem tra SNT

5

2 3 6 7 19

OUTPUT:

2 3 7 19

4

#include <stdio.h>

#include <math.h>

int isPrime(int num) {

if (num <= 1) {

return 0;

}

int i;

for ( i = 2; i <= sqrt(num); i++) {

if (num % i == 0) {

return 0;

}

}

return 1;

}

int main() {

int n,i;

scanf("%d", &n);

int a[n];

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

scanf("%d", &a[i]);

}

int cnt = 0; // Initialize the count of prime numbers to zero

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

if (isPrime(a[i])) {

printf("%d ", a[i]);

cnt++;

}

}

printf("\nTotal prime numbers: %d\n", cnt);

return 0;

}

//-----------------------------------------------------------------------------

// Q2 Kiem tra so chinh phuong

6

1

4

7

9

16

25

OUTPUT:

1 4 9 16 25

#include <stdio.h>

#include <math.h>

int isPerfectSquare(int num) {

int squareRoot = (int)sqrt(num);

return squareRoot \* squareRoot == num;

}

int main() {

int n,i;

scanf("%d", &n);

int a[n];

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

scanf("%d", &a[i]);

}

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

if (isPerfectSquare(a[i])) {

printf("%d ", a[i]);

}

}

return 0;

}

//-----------------------------------------------------------------------------

// Q3 In ra k so chinh phuong dau tien

5

0 1 4 9 16

#include <stdio.h>

#include <math.h>

int isPerfectSquare(int n) {

int x = (int)sqrt(n);

return (x \* x == n);

}

int main() {

int k;

do {

scanf("%d", &k);

} while (k < 1);

int num = 0;

int count = 0;

while (count < k) {

if (isPerfectSquare(num)) {

printf("%d ", num);

count++;

}

num++;

}

printf("\n");

return 0;

}

//-----------------------------------------------------------------------------

// Q4 In ra k so nguyen to dau tien

7

2 3 5 7 11 13 17

#include <stdio.h>

#include <math.h>

int isPrime(int num) {

if (num <= 1) {

return 0;

}

int i;

for ( i = 2; i <= sqrt(num); i++) {

if (num % i == 0) {

return 0;

}

}

return 1;

}

int main() {

int k;

do {

scanf("%d", &k);

} while (k < 1);

int num = 2;

int count = 0;

while (count < k) {

if (isPrime(num)) {

printf("%d ", num);

count++;

}

num++;

}

printf("\n");

return 0;

}

//-----------------------------------------------------------------------------

// Q5 check nam nhuan leap year

2024

2024 la nam nhuan

#include <stdio.h>

#include <math.h>

int main(){

int year;

scanf("%d", &year);

if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {

printf("%d la nam nhuan", year);

} else {

printf("%d khong la nam nhuan", year);

}

}

//-----------------------------------------------------------------------------

// Q6 Check amstrong

153

Yes, 153 la so Armstrong.

#include <stdio.h>

#include <math.h>

int main() {

int cnt = 0;

int n;

do {

scanf("%d", &n);

} while (n < 1);

int t = n;

while (t != 0) {

cnt++;

t /= 10;

}

int temp = n;

int sum = 0;

while (temp != 0) {

sum += pow(temp % 10, cnt);

temp /= 10;

}

if (n == sum) {

printf("Yes, %d la so Armstrong.\n", n);

} else {

printf("No, %d khong phai la so Armstrong.\n", n);

}

return 0;

}

//-----------------------------------------------------------------------------

// Q7 check perfect number

28

28 la so hoan hao.

#include <stdio.h>

int main() {

int num,i;

int sum\_of\_divisors = 0;

scanf("%d", &num);

for ( i = 1; i <= num / 2; i++) {

if (num % i == 0) {

sum\_of\_divisors += i;

}

}

if (sum\_of\_divisors == num) {

printf("%d la so hoan hao.\n", num);

} else {

printf("%d khong phai la so hoan hao\n", num);

}

return 0;

}

//-----------------------------------------------------------------------------

// Q8 check power of 2

16

OUTPUT:

16 la luy thua cua 2 voi so mu la 4.

#include <stdio.h>

int main() {

int a, n = 0, a1, remainder;

scanf("%d", &a);

a1 = a;

printf("\nOUTPUT:\n");

while (a != 0) {

remainder = a % 2;

if (remainder != 0) {

break;

}

a /= 2;

n++;

}

if (a > 1) {

printf("%d khong phai la luy thua cua 2.\n", a1);

} else {

printf("%d la luy thua cua 2 voi so mu la %d.\n", a1, n);

}

return 0;

}

//-----------------------------------------------------------------------------

// Q9 Check square number (so binh phuong)

3

3 khong la so binh phuong.

#include <stdio.h>

#include <math.h>

int main() {

int num;

scanf("%d", &num);

double sqrtResult = sqrt(num);

if (sqrtResult == (int)sqrtResult) {

printf("%d la so binh phuong.\n", num);

} else {

printf("%d khong la so binh phuong.\n", num);

}

return 0;

}

//-----------------------------------------------------------------------------

// Q10 Check luy thua

27

27 la luy thua cua 3^3

#include <stdio.h>

#include <math.h>

int main() {

int num, base;

double exponent;

scanf("%d", &num);

for (base = 2; base <= num; base++) {

exponent = log(num) / log(base);

if (exponent == (int)exponent) {

printf("%d la luy thua cua %d^%d\n", num, base, (int)exponent);

return 0;

}

}

printf("%d khong la luy thua cua bat ky so nguyen co so nao.\n", num);

return 0;

}

//-----------------------------------------------------------------------------

// Q11 Kiem tra in ra so lan xuan hien cua cua phan tu trong mang tu nhap

int n;

scanf("%d", &n);

int arr[n];

int count[n];

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

count[i] = 0;

}

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

scanf("%d", &arr[i]);

}

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

if (count[i] == -1) {

continue;

}

int occurrences = 1;

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

if (arr[i] == arr[j]) {

occurrences++;

count[j] = -1;

}

}

count[i] = occurrences;

}

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

if (count[i] != -1) {

printf("%d xh %d lan\n", arr[i], count[i]);

}

}

//-----------------------------------------------------------------------------

// Q12 check mang tang dan

int n;

scanf("%d", &n);

int arr[n];

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

scanf("%d", &arr[i]);

}

int isIncreasing = 1;

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

if (arr[i] < arr[i - 1]) {

isIncreasing = 0;

break;

}

}

if (isIncreasing) {

printf("La mang tang dan.\n");

} else {

printf("Khong tang dan.\n");

}

//-----------------------------------------------------------------------------

-----------------Q13 check mang doi xung -----------------------------

#include <stdio.h>

#include <stdlib.h>

int main(){

int n,i;

scanf("%d", &n);

int arr[n];

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

scanf("%d", &arr[i]);

}

int isPalindrome = 1;

for ( i = 0; i < n / 2; i++) {

if (arr[i] != arr[n - i - 1]) {

isPalindrome = 0;

break;

}

}

if (isPalindrome) {

printf("La Mang Doi Xung.\n");

} else {

printf("Khong la mang doi xung.\n");

}

}

//-----------------------------------------------------------------------------

// Q14 check xem so co thuoc day Fibonacci hay ko

int num;

printf("Nhap mot so nguyen: ");

scanf("%d", &num);

int a = 0, b = 1;

while (b < num) {

int temp = a + b;

a = b;

b = temp;

}

if (b == num) {

printf("%d thuoc Fibonacci.\n", num);

} else {

printf("%d không thuoc Fibonacci.\n", num);

}

/

//-----------------------------------------------------------------------------

// Q15 check so thuan nghich

int num;

scanf("%d", &num);

char numStr[20];

sprintf(numStr, "%d", num);

int isPalindrome = 1;

int len = strlen(numStr);

for (int i = 0; i < len / 2; i++) {

if (numStr[i] != numStr[len - i - 1]) {

isPalindrome = 0;

break;

}

}

if (isPalindrome) {

printf("%d là so thuan nghich.\n", num);

} else {

printf("%d không là so thuan nghich.\n", num);

}

//-----------------------------------------------------------------------------

return 0;

}