Video No.: 60

Topic Name: Special Programs in C - Check if the Number is Perfect Number

01. What is a perfect number?

A perfect number is a positive integer that is equal to the sum of all its proper positive divisors excluding the number itself.

For example:

6 is a perfect number.

Because the proper positive divisors of 6 are 1, 2 and 3 (excluding 6)

And the sum of all its positive divisors 1 + 2 + 3 = 6 (=6)

```c
#include<stdio.h>
int main(){
    int number = 33550336, i, sum = 0, rem;
    for (i = 1; i<number ; i++){
        rem = number % i;
        if (rem == 0){
            sum = sum + i;
        }
    }
    if (sum == number){
        printf("%d is a Perfect Number.", number);
    }else{
        printf("%d is NOT a Perfect Number.", number);
    }
    return 0;
}
```

Iteration 1:

Rem = 0

Sum = 0 + 1 = 1

Iteration 2:

Rem = 0

Sum = 1 + 2 = 3

Iteration 3:

Rem = 0

Sum = 6 + 3 = 6