

12. Write a program to find the perfect number.

Program:

```
def is_perfect_number(n):
    if n <= 1:
        return False

    sum_of_divisors = 1 # 1 is a proper divisor of any
    number
    # Find all divisors from 2 up to the square root of n
    for i in range(2, int(n**0.5) + 1):
        if n % i == 0:
            sum_of_divisors += i
            if i != n // i: # Add the corresponding divisor
                greater than sqrt(n)
                sum_of_divisors += n // i

    return sum_of_divisors == n

# Example usage
number = 28
if is_perfect_number(number):
    print(f"{number} is a perfect number.")
else:
    print(f"{number} is not a perfect number.")
```

Output:

```
"C:\Program Files\Python312\python.exe" "C:\Work Space\DAA COADS.PYTHON\program11.py"
Reverse of 12345 is 54321

Process finished with exit code 0
```

Time complexity:

$O(\sqrt{n})$