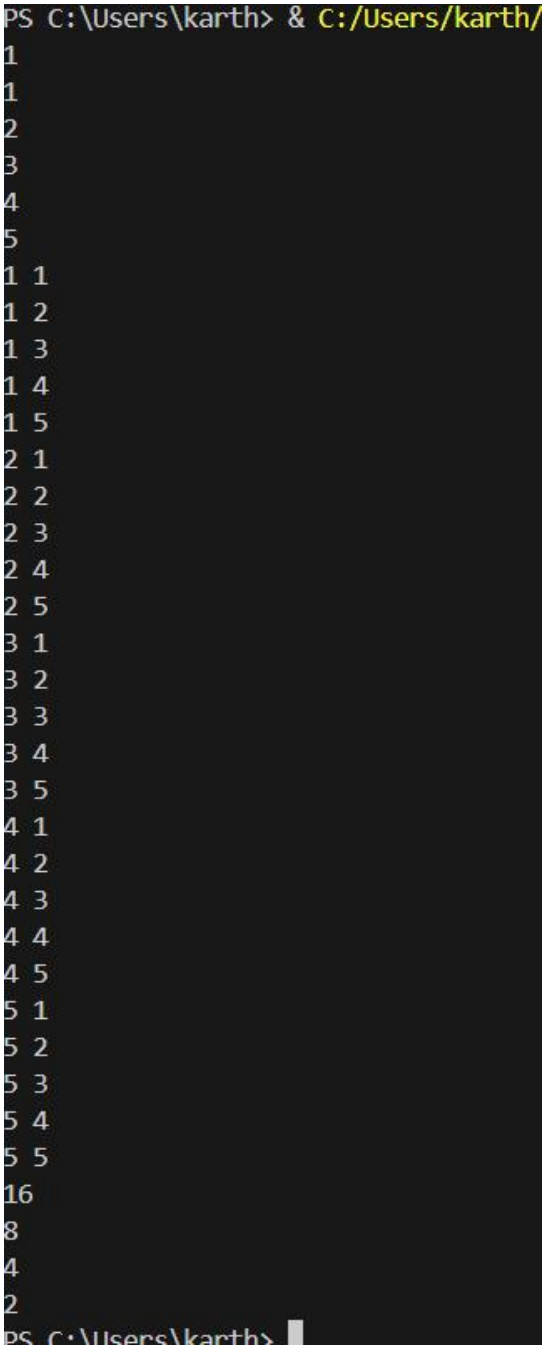
3.write a program that demonstrate that usage notations by analyzing the time complexity of some examples algorithm.

Code:

```
def constant_algo(items):
    result = items[0]*items[0]
    print(result)
def linear_algo(items):
    for item in items:
        print(item)
def quadratic_algo(items):
    for item in items:
        for i in range(len(items)):
            print(item,items[i])
def logarithmic_algo(n):
    while n>1:
        print(n)
        n=n//2
def factorial_algo(n):
    if n==0:
        return 1
    else:
        return n*factorial_algo(n-1)
items = [1, 2, 3, 4, 5]
constant_algo(items)
linear_algo(items)
quadratic_algo(items)
logarithmic_algo(16)
factorial_algo(5)
```

output:



Time complexity:f(n)=o(n)