Q1. WAP to print prime numbers till 'n' numbers.

```python
# Now, battery is running out, will write later.
```

Q2. WAP to print the given patterns

2.1 WAP to print the given pattern upto 'n' number.

```
x
xx
xxx
xxxx
xxxxx
```

```python
# Without function
x = int(input("Number: "))

for i in range (1, x + 1):
    print("x"*i)
```

```
x
xx
xxx
xxxx
xxxxx
xxxxxx
xxxxxxx
xxxxxxxx
xxxxxxxxx
xxxxxxxxxx
```

```python
# Using a function
def pattern1(x):
    for i in range (1, x + 1):
        print("x"*i)

num = int(input("Number: "))
pattern1(num)
```

```
x
xx
xxx
xxxx
xxxxx
xxxxxx
xxxxxxx
xxxxxxxx
xxxxxxxxx
xxxxxxxxxx
```

2.2 WAP to print the given pattern upto 'n' number.

```
    x
   xx
  xxx
 xxxx
xxxxx
```

In [4]:
```python
# Without function
x = int(input("Number: "))
for i in range (1, x + 1):
    print(" " * (x-i) + "x"*i)
```

```
         x
        xx
       xxx
      xxxx
     xxxxx
    xxxxxx
   xxxxxxx
  xxxxxxxx
 xxxxxxxxx
xxxxxxxxxx
```

In [5]:
```python
# Using a function
def pattern2(x):
    for i in range (1, x + 1):
        print(" " * (x-i) + "x"*i)

num = int(input("Number: "))
pattern2(num)
```

```
         x
        xx
       xxx
      xxxx
     xxxxx
    xxxxxx
   xxxxxxx
  xxxxxxxx
 xxxxxxxxx
xxxxxxxxxx
```

2.3 WAP to print the pyramid pattern of 'x' upto 'n' number.

In [6]:
```python
# Without function
x = int(input("Number: "))

for i in range (1, x + 1):
    print(" "* (x-i) + "x "*i)
```

```
        x
       x x
      x x x
     x x x x
    x x x x x
   x x x x x x
  x x x x x x x
 x x x x x x x x
x x x x x x x x x
x x x x x x x x x x
x x x x x x x x x x x
```

In [7]:
```python
# Using a function
def pattern3(x):
    for i in range (1, x + 1):
        print(" "* (x-i) + "x "*i)

num = int(input("Number: "))
pattern3(num)
```

```
        x
       x x
      x x x
     x x x x
    x x x x x
   x x x x x x
  x x x x x x x
 x x x x x x x x
x x x x x x x x x
x x x x x x x x x x
```

2.4 WAP to print the inverse pyramid pattern of 'x' upto 'n' number.

In [8]:
```python
# Without function
x = int(input("Number: "))

for i in range (x, 0, -1):
    print(" "* (x-i) + "x "*i)
```

```
x x x x x x x x x x x
 x x x x x x x x x x
  x x x x x x x x x
   x x x x x x x x
    x x x x x x x
     x x x x x x
      x x x x x
       x x x x
        x x x
         x x
          x
```

In [9]:
```python
# Using a function
def pattern4(x):
    for i in range (x, 0, -1):
        print(" "* (x-i) + "x "*i)
```

```
num = int(input("Number: "))
pattern4(num)
```

```
x x x x x x x x x x
 x x x x x x x x x x
  x x x x x x x x x
   x x x x x x x x
    x x x x x x x
     x x x x x x
      x x x x x
       x x x x
        x x x
         x x
          x
```

2.3 WAP to print the border of 'x' with space inside upto 'n' number.

In [10]:
```python
x = int(input("Number: "))
# print(f"N: {x}")

for i in range (1, x+1):
    if i == 1:
        print("x "*x)
        continue

    if i == x:
        print("x "*x)
        break

    print(f"x " + "  " * (x-2) + "x")
```

```
x x x x x x x x x x
x                 x
x                 x
x                 x
x                 x
x                 x
x                 x
x                 x
x                 x
x x x x x x x x x x
```

In [11]:
```python
# Using a function
def pattern5(x):
    for i in range (1, x+1):
        if i == 1:
            print("x "*x)
            continue

        if i == x:
            print("x "*x)
            break

        print(f"x " + "  " * (x-2) + "x")
```

```python
num = int(input("Number: "))
pattern5(num)
```

```
x x x x x x x x x x
x                 x
x                 x
x                 x
x                 x
x                 x
x                 x
x                 x
x                 x
x x x x x x x x x x
```