# Exercise 1

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1. Write a python program to compute $n!$ assuming $n > 0$ and print the result. Take the following as the first three lines and fill up the rest.

```
import sys
if __name__ == "__main__":
    n = int(sys.argv[1]) #get command line argument and convert it to int
```

   Example output:

```
> python fact.py 5
120
```

2. Write a python program to test if the input $n$ is a primer number or not, if it is then the program prints `True` otherwise prints `False`.

```
import sys
if __name__ == "__main__":
    n = int(sys.argv[1]) #get command line argument and convert it to int
```

   Example output:

```
> python isPrimer.py 5
True
```

3. Write a python program to convert a decimal number to binary.

```
import sys
if __name__ == "__main__":
    n = int(sys.argv[1]) #get command line argument and convert it to int
```

   Example output:

```
> python dec2bin.py 5
101
```

4. **Challenge:** rewrite the above three programs without using `while` or `for`. (Hint: recursion)