

My 2nd best language for this type of work is iPython Notebook

Again, let's start at: [AKS test for primes in Python](#)

It even appears that the generator version on Rosetta has a similar problem as the Forth version.

In [1]:

```
def expand_x_1(p):
    ex = [1]
    for i in range(p):
        ex.append(ex[-1] * -(p-i) / (i+1))
    return ex[::-1]

def aks_test(p):
    if p < 2: return False
    ex = expand_x_1(p)
    ex[0] += 1
    return not any(mult % p for mult in ex[0:-1])

print('# p: (x-1)^p for small p')
for p in range(12):
    print('%3i: %s' % (p, ' '.join('%+is' % (e, ('x^%i' % n) if n else ''))
                                   for n,e in enumerate(expand_x_1(p))))

print('\n# small primes using the aks test')
print([p for p in range(101) if aks_test(p)])

# p: (x-1)^p for small p
0: +1
1: -1 +1x^1
2: +1 -2x^1 +1x^2
3: -1 +3x^1 -3x^2 +1x^3
4: +1 -4x^1 +6x^2 -4x^3 +1x^4
5: -1 +5x^1 -10x^2 +10x^3 -5x^4 +1x^5
6: +1 -6x^1 +15x^2 -20x^3 +15x^4 -6x^5 +1x^6
7: -1 +7x^1 -21x^2 +35x^3 -35x^4 +21x^5 -7x^6 +1x^7
8: +1 -8x^1 +28x^2 -56x^3 +70x^4 -56x^5 +28x^6 -8x^7 +1x^8
9: -1 +9x^1 -36x^2 +84x^3 -126x^4 +126x^5 -84x^6 +36x^7 -9x^8 +1x^9
10: +1 -10x^1 +45x^2 -120x^3 +210x^4 -252x^5 +210x^6 -120x^7 +45x^8 -10x^9 +1x^10
11: -1 +11x^1 -55x^2 +165x^3 -330x^4 +462x^5 -462x^6 +330x^7 -165x^8 +55x^9 -11x^10 +1x^11

# small primes using the aks test
[2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53]
```

I chose the 1st/easiest one at: [Fibonacci sequence iterative positive and negative](#)

In [2]:

```
def fib(n,x=[0,1]):
    for i in range(abs(n)-1): x=[x[1],sum(x)]
    return x[1]*pow(-1,abs(n)-1) if n<0 else x[1] if n else 0

for i in range(0,31):
    x = fib(i)
    if x == 0:
        print (x)
    else:
        if x % 3 == 0:
            print ('Buzz ')
        else:
            if x % 5 == 0:
                print ('Fizz ')
            else:
                if x % 15 == 0:
                    print ('FizzBuzz ')
```

```
        print ( 'FizzBuzz ' )
    else:
        if aks_test(x):
            print ( 'BuzzFizz ' )
        else:
            print (x)
```

```
0
1
1
BuzzFizz
Buzz
Fizz
8
BuzzFizz
Buzz
34
Fizz
89
Buzz
233
377
Fizz
Buzz
1597
2584
4181
Buzz
10946
17711
28657
Buzz
Fizz
121393
196418
Buzz
514229
Fizz
```