Prime Numbers in Sequence

```
import time
import seaborn as sns
import matplotlib.pyplot as plt

# Start the timer
start_time = time.time()

# Define the range of numbers to check
nums = range(2, 100000)  # Start from 2 because 1 is not considered a prime number

# Define the function to check if a number is prime
def is_prime(num):
    if num < 2:
        return False
    for x in range(2, int(num**0.5) + 1):
        if (num % x) == 0:
            return False
    return True

# Use filter to find all prime numbers in the range
primes = list(filter(is_prime, nums))

# Stop the timer
end_time = time.time()

# Print the list of prime numbers
print(primes)

# Print the duration
print(f"Time taken: {end_time - start_time:.5f} seconds")

# Create a histogram of the primes
```

```
sns.set(style="whitegrid")
plt.figure(figsize=(10, 6))

# Plotting the histogram with multiple colors
sns.histplot(primes, bins=30, kde=False, color="blue", palette="husl")

# Adding labels and title
plt.xlabel("Prime Number")
plt.ylabel("Frequency")
plt.title("Distribution of Prime Numbers")

# Show the plot
plt.show()
```

```
[2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89,
Time taken: 0.06999 seconds

/tmp/ipykernel_55313/2148440747.py:37: UserWarning:

Ignoring `palette` because no `hue` variable has been assigned.
```