Exercise 1

MATH 457: SCIENTIFIC COMPUTING

November 27, 2019

Note: This is your first exercise in this course. Watch the deadline for submission. Remember to use the following format when submitting the the assignment: Full name index no.pdf. Eg: Thomas_Ansong_5643009.py

1. Define a function that takes an integer argument and returns logical value true or false depending on if the integer is a prime.

```python
def is_prime(number):
    #code below
    return None


# example
is_prime(1) = False
```

2. Using the function created above, write a new function that accepts an integer and returns all the prime factors for this integer.

```
def prime_factors(number):
    # code below
    return None
# example
#prime_factors(10) = [2,5]
#prime_factors(22) = [2,11]
```

3. Extra credit to the usage of an efficient primality test algorithm (*state the name of the algorithm used*)