

CIS 101 — Quiz 6 solution

Name:

Answer the following question using the MATLAB programming language. Try to be as exact as possible. Your answers should be such that if typed into MATLAB they will produce the correct result. Exactly correct answers will receive full credit. Note that there may be more than one way to answer the question and so any correct answer will be accepted.

Problem 1. Write an if statement that outputs "equal" if two numbers x and y are equal and "not equal" otherwise. The syntax for the if else end block is

```
if <conditional expression>
    <matlab commands>
else
    <matlab commands>
end
```

Use the `disp("text to output")` command to output a string.

```
if x == y
    disp('equal')
else
    disp('not equal')
end
```

Problem 2. Write a for loop that outputs the prime numbers in array A . The syntax for a for loop is

```
for  $i = f : s : t$ 
    <matlab commands>
end
```

where f is the value of i in the first pass, s is the increment in i after each pass, and t is the value of i in the last pass.

The command to get the length of an array A (i.e. the number of elements in the array) is `length(A)`. Use the function `isprime(x)` to test if a number is prime. `isprime(x)` returns 1 if the number is prime and 0 otherwise.

```
for i=1:length(A)
    if isprime(A(i)) == 1
        disp(A(i))
    end
end
```