Week 3, Examples 2

[Note: From Chapter 4 we are jumping into the first part of Chapter 7. On completing this part we will move to Chapter 5]

```python
# 1.py

# If-statement

def wait():
    x = input()
    print(" ")

def main():
    # input any non-negative number to print "Larry"
    number = eval(input("Enter any number: "))
    wait()
    if (number >= 0):
        print(" Hello Larry!")

main()
```

```python
# 2.py
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```
# If-else-statement (2-way decision, fork in the road)

```python
def wait():
    x = input()
    print(" ")

def main():
    # input any non-negative number to print "Larry", else print "Moe"
    number = eval(input("Enter any number: "))
    wait()
    if (number >= 0):
        print(" Hello Larry!")
    else:
        print ("Hello Moe!")

main()
```

# Nested If-else-statement (4-way decision, each fork leads to another fork in the road. By road we mean "execution path taken by the CPU" based on conditions being True or False)
```python
def wait():
    x = input()
    print(" ")

def main():
    # input any number
    # number > 10 prints "Larry"
    # 0 <= number <= 10 prints "Moe"
    # number < -10 prints "Curly"
    # -10 <= number < 0 prints "Shemp"
    # These print statements are only used to show how the "if-else" works.
    # In general there will be statements and function calls, etc., in each
    # block,
    # depending on what you want to have done.
    # NOTE: Be careful. When you test for conditions, make sure you account for
    # ALL the different cases, i.e., all the possible paths. Otherwise the
    # program
    # may take a path that you did not expect, and it will take some effort to
    # trace this later --- to find which condition(s) you missed.

    number = eval(input("Enter any number: "))
    wait()
    if (number >= 0):
        if (number > 10):
            print(" Hello Larry!")
        else:
            print(" Hello Moe!")
    else:
        # if we are here, it means number < 0
        if (number < -10):
            print(" Hello Curly!")
        else:
            print(" Hello Shemp!")
    main()```

# #4.py

# Same example as in 3.py, except that we use "elif" instead of nested if-else

# Nested If-else-statement (4-way decision, each fork leads to another fork # in the road. By road we mean "execution path taken by the CPU" based on # conditions being True or False)

def wait():
    x = input()
    print(" ")

def main():
    # input any number
    #  number > 10 prints "Larry"
    #  0 <= number <= 10 prints "Moe"

    # number < -10 prints "Curly"
    # -10 <= number < 0 prints "Shemp"

    number = eval(input("Enter any number: "))
    wait()
    if (number >10):
        print(" Hello Larry!")
    elif (0 <= number <= 10):
        print(" Hello Moe!")
    elif (number < -10):
        print(" Hello Curly!")
else: # notice how the "else" at end catches all the remaining cases
    print(" Hello Shemp!")

main()