```python
# The IF statement is used a lot in coding.
# The WHILE statement is not that often. More common is FOR.

###############
# IF STATEMENT
###############
# Something will or not be done depending on certain conditions
print("------------")
print("IF STATEMENT")
print("------------")

# Print only if the number is larger than 10
x = int(input("Enter any number: "))
if x>10:
    print("You entered a number larger than 10")

# NOTICE that in the line following the IF statement,
# there is an empty SPACE.
# Every line with a space at the beginning will be executed
# ONLY if the IF-statement is satisfied.
# Lines without the space are not part of the block.


# %%
# Identify if the number someone entered is even or odd...
x = int(input("Enter a whole positive number: "))
if x%2 == 0:
    print("I can't see, but I know that you entered an EVEN number!")
else:
    print("I can't see, but I know that you entered an ODD number!")

# %%
# Do something only if the person is above 25.
x = int(input("Enter your age: "))
if x>=25:
    print("You are above 25. Your rental car will be cheaper.")
else:
    print("You are under 25, so you need to pay an extra fee to rent the car.")

# %%
# OTHER TYPES OF CONDITIONS
# if x==1:    EQUAL
# if x>1:     LARGER THAN
# if x>=1:    LARGER OR EQUAL
# if x<1:     LESS THAN
# if x<=1:    LESS OR EQUAL
# if x!=1:    DIFFERENT

# %%
# COMBINE CONDITIONS
x = int(input("Enter a whole positive number: "))
```

```python
if x>10 or x<1:
    print("Your number is either too big or too small. Try between 1 and 10.")
else:
    print("The number you entered is 1 <= x <= 10")

# %%
x = int(input("Enter a whole positive number: "))
if x<=10 and x>=1:
    print("Your number x is 1 <= x <= 10.")
else:
    print("Either your number is larger than 10 or less than 1")


# %%
##################
# WHILE STATEMENT
##################
# If the condition is met and the block is executed,
# the program loops back and checks if the condition is true again.
print()
print("----------------")
print("WHILE STATEMENT")
print("----------------")


################################
print()
print("Simple Example")
# Start with x=1. At each step, add 10 to the number.
# Stop before 44.
x=1
xmax = 44

while x<xmax:
    print(x)
    x = x+10
print("Done!")


################################
print()
print("Example 2.4: Fibonacci Numbers")
# Fibonacci numbers are the sequence of integers in which
# each is the sum of the previous two numbers,
# with the first two numbers being 1,1
# so the third is 1+1=2
# and the foruth is 1+2=3
# and the fifth is 2+3=5, etc

# Calculate the Fibonacci numbers up to 1000
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```python
print()
print("The Fibonacci numbers smaller than 1000 are:")
num1 = 1
num2 = 1
while num1 <= 1000:
    print(num1)
    num_next = num1 + num2
    num1 = num2
    num2 = num_next
```