Data Science with Python
Ticket Out the Door
Set 6: Conditionals Part 2

Name _____ Period _____

Skill 6.1 Exercise 1	
For each of the following indicate what is printed as the output. If an error occurs, indicate the error and why.	
Code	**Output**
| ```python
num = 10
if (num == 0):
    print("Number is Zero")

elif (num > 5):
    print("Number is greater than 5")

else:
    print("Number is smaller than 5")
``` | |
| ```python
num = -7
if (num > 0):
        print("Number is positive")
elif (num < 0):
print("Number is negative")
else:
        print("Number is Zero")
``` | |
| ```python
time = 22
if(time > 7 & time < 7.5):
    print("wake up and get ready!")
elif((time > 7.5) & (time < 15.25)):
    print("go to school!")
elif((time > 15.25) & (time < 17.5)):
    print("go to band practice")
elif((time > 17.5) & (time < 18.5) ):
    print("eat dinner")
elif((time > 18.5) & (time < 21)):
    print("do homework")
elif((time >21) & (time < 22)):
    print("hang out")
else:
    print("go to bed")
``` | |

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```python
time = 11
if(time < 7):
    print("stay in bed")
if((time > 7) & (time < 7.5)):
    print("wake up and get ready!")
elif((time > 7.5) & (time < 15.25)):
    print("go to school!")
elif((time > 15.25) & (time < 17.5)):
    print("go to band practice")
elif((time > 17.5) & (time < 18.5) ):
    print("eat dinner")
elif((time > 18.5) & (time < 21)):
    print("do homework")
elif((time >21) & (time < 22)):
    print("hang out")
else:
    print("go to bed")
```

Skill 6.2 Exercise 1

What is wrong with the code below?

```python
if(grade < 100):
    print("you got an A")
elif(grade < 90):
    print("you got a B ")
elif(grade < 80):
    print("you got a C")
elif(grade < 70):
    print("you got a D")
else:
    print("you failed")
```

Re-write the code above so that it correctly evaluates the grade.

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Skill 6.3 Exercise 1

For each of the following indicate what is printed as the output. If an error occurs, indicate the error and why.

Code	Output
| ```python
num = 7
if (num != 0):
            if (num > 0):
                        print("Number is
greater than Zero")
``` | |
| ```python
i = 10
if (i == 10):
    if (i < 20):
    print (i, "is smaller than 20")
    if (i < 21):
    print (i, "is smaller than 21")
``` | |
| ```python
num = -7
if (num != 0):
        if (num > 0):
                    print("Number is positive")
        else:
                    print("Number is negative")
else:
            print("Number is Zero")
``` | |

Skill 6.4 Exercise 1

You are writing a number guessing game and want to provide feedback to the user that their guess is cold, warm, or hot! Your program should generate a random number from 1 to 100 (inclusive). If the guess is within +/- 5 of the actual number, your program should print "hot!" to the user. If the guess is within +/- 10, your program should print "warm!", otherwise your program should print "cold!". In addition to indicating how close the user is, you should also indicate whether their guess is too big or too small.

Below are some examples of input and out based on the random number *rand*.

```
rand = 25
```

User input	Output
21	Too small, but hot!
30	Too big, but hot!
35	Too big, but warm!
16	Too small, but warm!
5	Too small, cold!
60	Too big, cold!

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