Conditional Statements (If/Then)

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Example 1. *Now on to if statements. We usually want the computer to do different things depending on the situation.*

```
from random import randint
x = randint(0,10)
print x

if x > 5:
    print x, "is bigger than 5!"
elif x == 5:
    print x, "is exactly 5!"
else:
    print x, "is smaller than 5!"
```

Example 2. *Another example with words and inputs.*

```
print "Hello, I'm your computer."
print "What is your favourite colour?"
fav = raw_input(">")
comp_fav = "purple"

if fav == comp_fav:
    print "That's my favourite too!"
else:
    print "That's a pretty sweet colour."
```

Example 3. *Write a program that asks you a random addition question. If you're right it congratulates you. If you're off by 1 it comments on your closeness. If you're wrong it is sad.*

1

Example 4. *Let's try making a choose your own adventure game.*

```
print "You are in a cave."
print "There is a path to your Left and a path to your Right."
path = raw_input(">")

if path == "Left":
    print "You see a bear eating cake."
    print "You can Take Cake or Dance."
    bear = raw_input(">")
    if bear == "Take Cake":
        print "You have angered the bear. It eats you."
    elif bear == "Dance":
        print "You and the bear have a dance party."
    else:
        print "The bear doesn't like that. It eats you."
elif path == "Right":
    print "You see a calm pool of water."
else:
    print "You should have picked Left or Right!"
    print "Your indecision offends me!"
```

Example 5. *Improve this game so that the 'Right' option is more interesting. If you think this game is super fun goto the Choose Your Own Adventure Game activity.*

Example 6. *Here is an improved quadratic formula solver that warns you if you if there are no real roots.*

```
# solves ax^2 + bx + c = 0
a=2.0
b=3.0
c=1.0

if b**2.0 - 4.0*a*c < 0:
    print "No real solutions"
else:

    x1 = (-b + (b**2.0 - 4.0*a*c)**(0.5))/(2.0*a)
```

```
x2 = (-b - (b**2.0 - 4.0*a*c)**(0.5))/(2.0*a)

print "The roots are:", x1, x2
```