

Introduction to Programming

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Lecture 3

Basics > Examples

Basics > Dictionary Lookup

1. Pick up the Dictionary
2. Open to the middle of the dictionary
3. Look at words
4. If "Debate" is among the words
 See the meaning
5. else if "Debate" is earlier in the book
 Open to the middle of the left half of book
 Go to line 3
6. else if "Debate" is later in the book
 Open to the middle of the right half of the book
 Go to line 3
7. else
 Give up

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Decisions based on Conditions

Ways to express Decisions in Python

```
if expression:  
    statements
```


Basics > Example

```
x=int(input())  
if x>100:  
    print(f"{x} is greater than 100.")
```

Basics > Example

```
x=int(input())  
if x>100 and x<300 :  
    print(f"{x} is .")
```

Basics > Example

```
x=int(input())  
if x>100 and x<300 :  
    print(f"{x} is in between 100 and 300.")
```

Basics > Example

```
x=int(input())  
if x+100 :  
    print(f"{x} is ...100.")
```

Basics > Example

```
x=int(input())  
if x+100 :  
    print(f“{x} is not equal to -100.”)
```

What happens if the condition is false?

Basics > If-else

```
if expression :  
    statements  
else:  
    statements
```

Basics > Example

```
x=int(input())  
if x>100:  
    print(f"{x} is greater than 100.")  
else:  
    print(f"{x} is less than or equal to 100.")
```


What if there are more conditions?

Basics > If-elif-else

```
if expression :  
    statements  
elif expression :  
    statements  
else:  
    statements
```

Basics > Example

```
x=int(input())  
if x>100:  
    print(f"{x} is greater than 100.")  
elif x<100:  
    print(f"{x} is less than 100.")  
else:  
    print(f"{x} is equal to 100.")
```

Basics > If-nesting

```
if expression :  
    if expression :  
        statements  
    else:  
        statements
```

Basics > Example

```
x=int(input())
if x>100:
    if x<400:
        print(f"{x} lies between 100 and 400.")
    else:
        print(f"{x} is less than or equal to 100.")
```

Given an integer, does it belong
to a given set of integers?
e.g. $\{1, 9, 16, 18\}$

■ That's It > Questions?

Thank You
For Your Kind Attention