

CSI31 Lecture 8

Topics:

- 7.1 Simple Decisions
- 7.2 Two-way Decisions

HW6(due date:Monday, October 20th)

1. Write a program that takes 14 numbers from the user. And outputs the sum of all negative numbers, the sum of all positive numbers and the averages of positive numbers, negative numbers and all fourteen numbers.

Hint: (use for loop; count negative numbers and positive numbers)

at each iteration take the next inputted number

if it is negative – add it to the sum of all negative numbers,
increment the counter of negative numbers

if it is positive – add it to the sum of all positive numbers,
increment the counter of positive numbers

When the loop is over, you'll have a sum of all negative numbers, and the sum of all positive numbers, along with the numbers of negative and positive numbers. So it is clear how to find the averages.

2.

7.1 Simple Decisions (If-statement)

Syntax of the *if-statement*:

```
if <condition>:  
    body
```

example

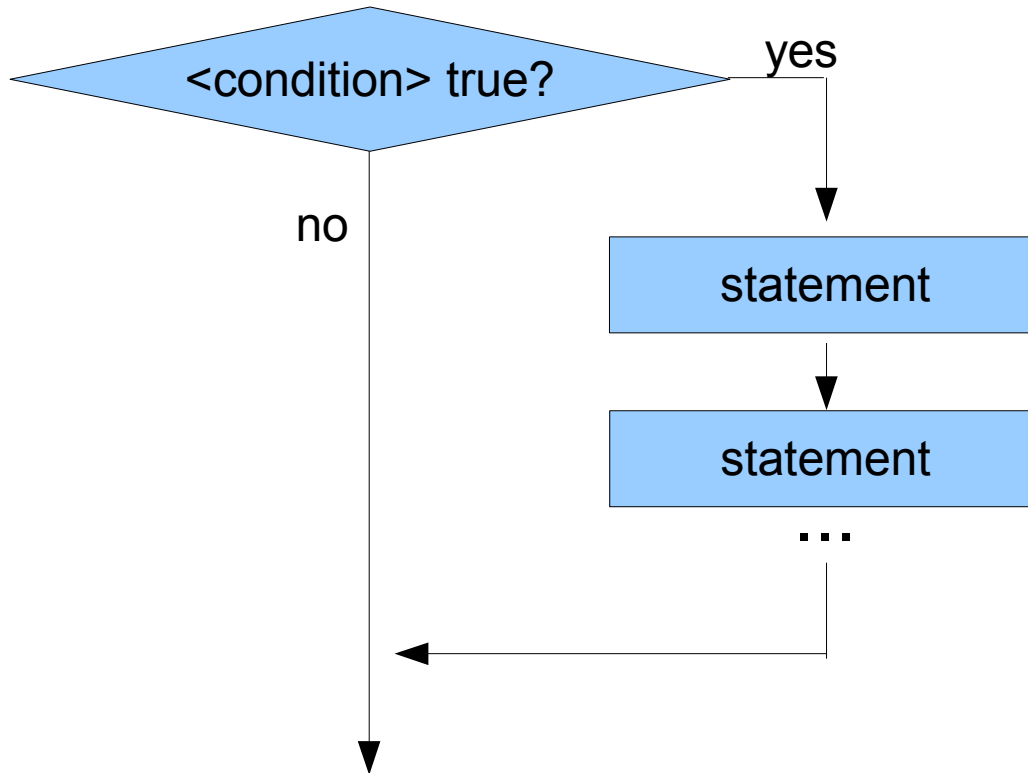
```
if t>90:
```

```
    print 'Heat Warning!'
```

condition

body

Control flow of simple if-statement:



Try to input the following commands in the interactive window:

```
>>> 3*7 > 23
```

```
>>> 23 <= 4*6*0
```

```
>>> 5 == 5
```

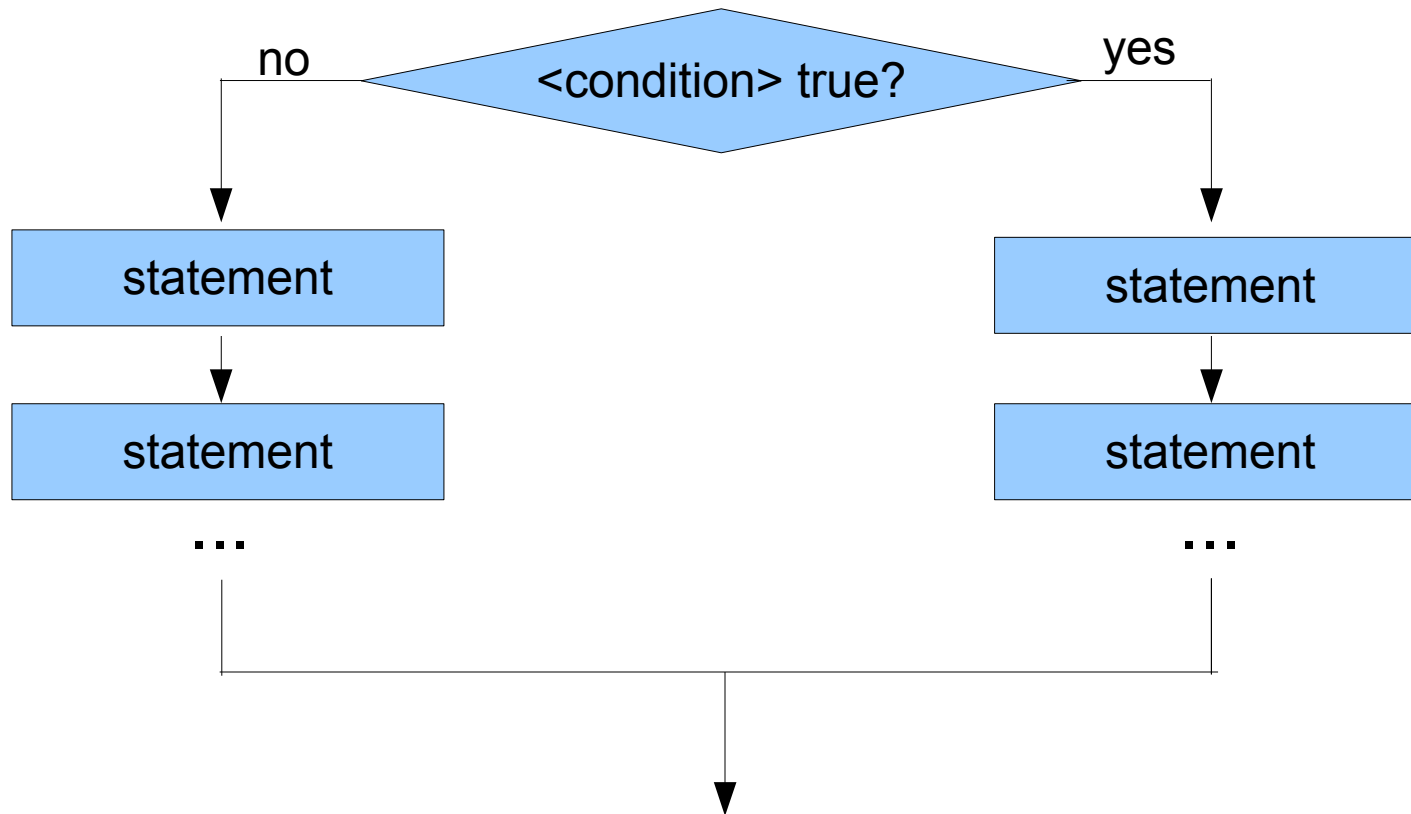
```
>>> 5=5
```

7.2 Two-way Decisions (if-else statement)

Syntax of the *if-else statement*:

```
if <condition>:  
    <statements>  
else:  
    <statements>
```

Control flow of a two-way decision if-else statement:



Example: p. 228 Programming exercise 1

Many companies pay time-and-a-half for any hours worked above 40 in a given week. Write a program to input the number of hours worked and the hourly rate and calculate the total wages for the week.

Algorithm:

input the number of hours worked in a given week (h)

input the hourly rate (r)

if $h > 40$, then $\text{pay} = 40 * r * 1.5$

else, then $\text{pay} = 40 * r$

output the total wage for the week

see the program ->