

Python Programming @ The department of Computer Science



Power 4

Requirements

Design and create a Python program that takes a single integer as input. If the input is less than 50 adds 10 and returns the result raised to the power of 4, otherwise simply returns the input raised to the power of 4.

Notes

A simple if statement in Python is expressed as follows:

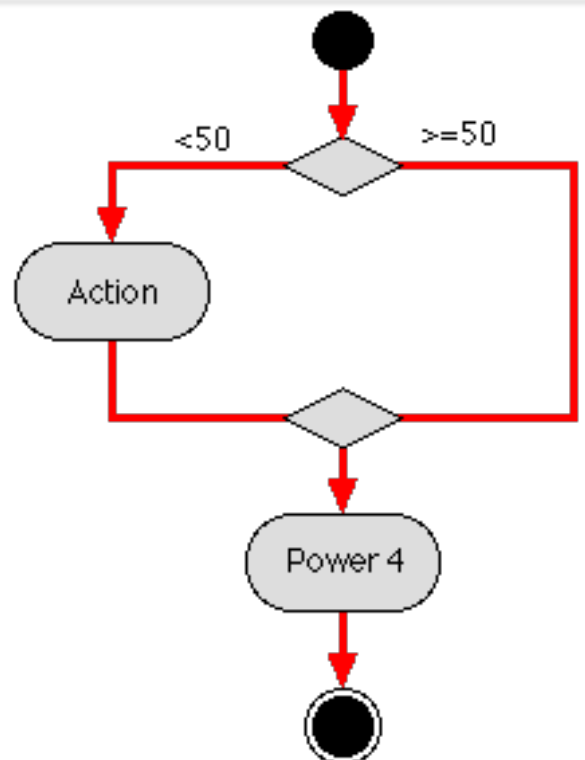
```
if <CONDITION> :  
    <STATEMENTS>
```

To raise a number x to the power 4 we write:

```
answer = x**4.0
```

Testing

It is sometimes useful to produce an activity diagram indicating flow of control through a method. Such a diagram is presented in the Figure. The choice point (selection) is indicated by a "diamond", other sequences of statements by simple boxes. Flow of control is indicated by the directed lines. Flow starts at the "start" oval (referred to as the riser) and ends at the "end" oval (referred to as the sink). Thus we can imagine the flow of control being indicated by a fluid that comes out of the "riser", flows through the system, and disappears down the "sink". The principal advantages of such a diagram is that it clearly indicates the paths through the system, essential information required when testing software systems that include choice points.



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