

# Lecture 6: Control Flow Revisited

## Carbon Dating

Write a program to calculate how old something is.

Input: what percent of c14 is remaining in the sample?

Output: age of the sample, in years



C14 = 100%



C14 = 8.8%

Half life constant

$$\text{age} = K \cdot \log \left( \frac{c14}{100} \right)$$

% of natural c14

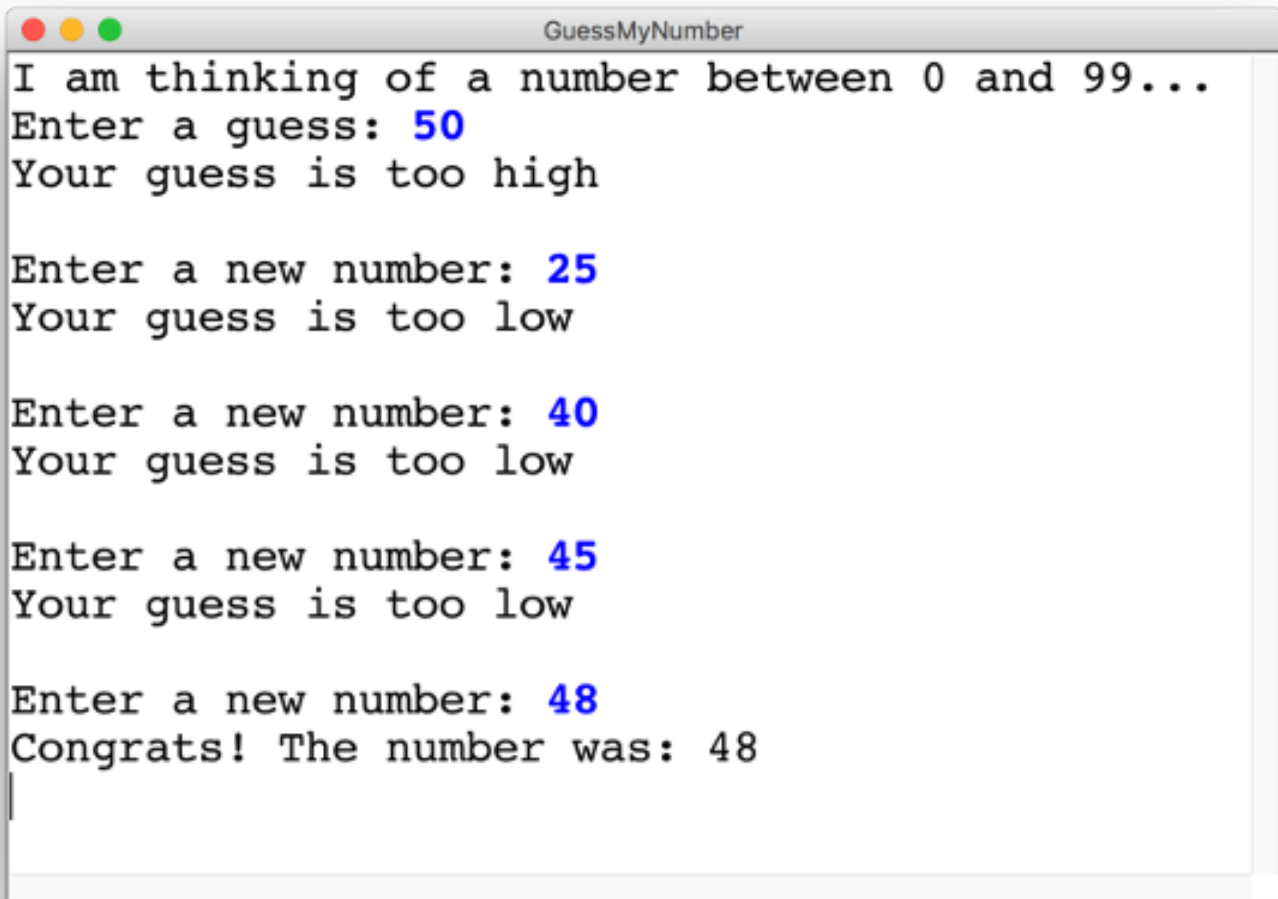
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## Equals Contrast

*This code slide does not have a description.*

# Guess My Number

Write a program that has a user try to guess the value of a number chosen between 1 and 99. Lets the user know if their guess is too low or too high



```
GuessMyNumber
I am thinking of a number between 0 and 99...
Enter a guess: 50
Your guess is too high

Enter a new number: 25
Your guess is too low

Enter a new number: 40
Your guess is too low

Enter a new number: 45
Your guess is too low

Enter a new number: 48
Congrats! The number was: 48
```

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# Sentinel Loops

Write a program that prompts the user for numbers until the user types -1, then output the total of the numbers. In this case, -1 is called a **sentinel value**

Here is an example run of the program:

```
Type a number: 10
Type a number: 20
Type a number: 30
Type a number: -1
total is 60
```

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## Print Even Numbers

Write a program to print the first 100 even numbers

