

Laboratory 1

1. Strings

Python strings are delimited by the single or the double quotation mark. If you use three double quotation marks as delimiters before and after the string, then the string can contain line breaks. In this exercise, we just use several print statements to print out one line at a time.

Recall that a backslash followed by many other characters has a special meaning. We say that the backslash is an *escape character* and that the symbol itself has been escaped. If you want to put a quotation mark inside a string delimited by the same quotation mark, then you need to use the backslash. While Python is very good at divining your intention (or rather has a clever algorithm to understand strings), you sometimes need to escape the backslash itself in order for it to be represented. As a rule of thumb, when you want a backslash, always escape it by doubling it.



1.1 Your first task is to draw the bear's face on the right with seven print statements. (The long horizontal lines are underscores.) The second print statement is something like

```
print(" / \\. - \" \" \" \" - . / \\")
```

1.2 Your second task is to write the following pattern using 5 print statements. There is a tab character after each "hi". The first line could be

```
hi    hi
hi    hi    hi
hi    hi    hi    hi
hi    hi    hi    hi    hi
hi    hi    hi    hi    hi    hi
```

```
print("hi\t"*2)
```

1.3 Use string concatenation (with the plus (+)-operator) to write 5 lines of text on the right where there are two, three, four, five, and six tabs between the "hi". The first line is generated by

```
hi          hi
hi          hi      hi
hi          hi          hi
hi          hi              hi
hi          hi                  hi
```

```
print("hi+2*\"\\t"+"hi")
```

2. Processing Input

Recall that Python uses the input function in order to obtain input from the keyboard. Using the following Furlong to Meters program as a paradigm, create programs that convert Cables to Meters, Acres to Square Meters, Gallons to Liters, Degrees Celsius to Degree Fahrenheit, and Degrees Fahrenheit to Degrees Celsius.

```
furlongs = float(input("Enter distance in Furlongs: "))
print('The distance is', furlongs*201.168, 'meters.')
```