

Learning Journal Unit 2

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CS 1101: Programming Fundamentals

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Part 1: Calculating Circumference of a Circle

"""Input"""

```
def print_circum(r):  
     $\pi$  = 3.14159  
    circum=2* $\pi$ *r  
    print("Circumference of a circle with radius", r, "is:", circum)  
  
print_circum(13)  
print_circum(3.5)  
print_circum(0.7)
```

"""Output"""

```
Circumference of a circle with radius  
13 is: 81.68133999999999  
Circumference of a circle with radius  
3.5 is: 21.99113  
Circumference of a circle with radius  
0.7 is: 4.398225999999999
```

Part 2: Creating a Company Catalogue

"""Input"""

```
def create_catalog():
    store_name = "Yerfdog Online Store"
    print(store_name)
    print("-----")
    print("Products          Price")

    item1 = "Item 1"
    item2 = "Item 2"
    item3 = "Item 3"
    combo1 = "Combo 1(Item 1+2)"
    combo2 = "Combo 2(Item 2+3)"
    combo3 = "Combo 3(Item 1+3)"
    combo4 = "Combo 4(Item 1+2+3)"

    item1_price = 200
    item2_price = 400
    item3_price = 600
    combo1_price= 0.9*(item1_price + item2_price)
    combo2_price= 0.9*(item2_price + item3_price)
    combo3_price= 0.9*(item1_price + item3_price)
    combo4_price= 0.75*(item1_price + item2_price + item3_price)

    print("Item 1:", item1_price)
    print("Item 2:", item2_price)
    print("Item 3:", item3_price)
    print("Combo 1(Item 1+2):",  combo1_price)
    print("Combo 2(Item 2+3):",  combo2_price)
    print("Combo 3(Item 1+3):",  combo3_price)
    print("Combo 4(Item 1+2+3):", combo4_price)
    print("-----")
    print("For delivery contact:+254729073231")

# Call the function to generate the catalog
create_catalog()
```

Explanation

The following characteristics are demonstrated by the function `create_catalog()`:

Creating a catalog: The function creates a catalog that includes the name of the business “Yerfdog Online Store” and the heading "Products" and "Prices." According to Downey (2015), a function definition outlines the name of a new function as well as the series of commands that are executed when the function is called. Function “create_catalog()” doesn't take any parameters, as indicated by the empty parentheses after the name (Downey, 2015). Furthermore, the program's quote marks indicate the start and end of the text that will be displayed; they are absent from the final product (Downey, 2015).

Price for each time: Three distinct items—Item 1, Item 2, and Item 3—are each given a price by the function. The names of each item and their matching prices are then printed.

Pricing for combo packs: The function calculates and assigns prices for different combo packs: Combo 1 (Item 1 + Item 2), Combo 2 (Item 2 + Item 3), Combo 3 (Item 1 + Item 3), and Combo 4 (Item 1 + Item 2 + Item 3). It applies discount percentages of 10% for combo packs with two items and 25% for the gift pack (Combo 4).

Prices are displayed: The function uses formatted strings to print the names of the combo packs along with their computed prices.

Contact details: The final step of the program prints a line with a phone number for contacting the retailer about delivery.

The store name, item names, and combo pack names are defined as variables at the beginning of the code. Each product and combo bundle has a corresponding price. Arithmetic operations are used to calculate the combo pack pricing, which are then recorded in variables with the suffix “_price.” A variable name may contain the underscore character, “_”, which is frequently used in names that contain several words (Downey, 2015). The function displays the title of the "Products" and "Price" section, a line of dashes, and the store name using print

statements. Following that, formatted strings are used to display the costs for both the individual goods and combo packs. The delivery contact information is then printed behind a line of dashes.

""Output""

```
Verfdog Online Store
-----
Products          Price
Item 1: 200
Item 2: 400
Item 3: 600
Combo 1(Item 1+2): 540.0
Combo 2(Item 2+3): 900.0
Combo 3(Item 1+3): 720.0
Combo 4(Item 1+2+3): 900.0
-----
For delivery contact:+254729073231
```

Explanation

The result shows the name of the retailer, the heading of the relevant section, and the pricing for both individual items and combo packs that were determined by the code. The contact information for delivery is provided at the end.

Reference

Downey, A. (2015). *Think Python: How to think like a computer scientist*. Green Tree Press.