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**HW2**

**Exercise: From the future value example listed above list one of each of the following: Name, expression, output statement, and a simple variable assignment.**

*# Modified and coded version of Zelle Future Value example listed in Chapter 2*

principal = float(input('Enter the initial principal: '))

apr = float(input('Enter the annualized interest rate: '))

**def** main(): print ('This program calculates the future value of a 10-year investment.')

**for** i **in** range(10):principal = principal \* (1 + apr)

print ('The amount in 10 years is:', principal)

main()

* main() is the name of the function
* **for** i **in** range(10):principal = principal \* (1 + apr) this loop is an expression which defines the main function
* print ('The amount in 10 years is:', principal)is the output
* principal = float(input('Enter the initial principal: ')) is a variable assignment
* apr = float(input('Enter the annualized interest rate: ')) is another variable assignment

**Exercise: Develop your own conversion program using the steps outlined above, include requirements, specifications, flow chart, pseudocode, and code. You can convert from ounces to grams, fahrenheit to celsius, kilometers/hour to miles/hour or any other unit conversion you can think of.**

* **Requirements:** we need to design the program that converts from ounces to grams. This will allow us quickly estimate weight in a different measurement system
* **Specifications:** Develop a conversion function that will convert from ounces to grams. The user will call the function and input the weight in ounces. The output will be displayed in grams.
* **Design creation**:

1. The user will input the weight in ounces and press enter
2. The weight is then converted to grams using the following equation: input in ounces\*28.35.
3. The converted weight in grams (the output) is displayed on the screen

* **Flow chart:**

Converted weight displayed on the screen

Convert weight into grams

Input weight in ounces

* **Pseudocode:**

convert\_to\_grams(ounces): **return**(ounces\* 28.35)

#used approximation up to two decimal points

* **Code**

weight\_in\_ounces = float(input('what is the weight in ounces? :')) #variable assignment

weight\_in\_grams= weight\_in\_ounces \* 28.35 #expression

print('The weight in grams is', weight\_in\_grams,'gram') #output