

Naming Convention

Rule for giving name

- letter
- numbers
- underscore _

Valid name

- `_myStr`
- `my3`
- `Hello_there` Invalid name
- `3my="hi"` -- cannot start with number
- `first name="hi"`
- `first-name`
- `first+name`

Symbol

<code>==</code>	Equal
<code>!=</code>	Not equal
<code>>=</code>	More than or equal
<code><=</code>	Less than or equal
<code>% (Madulo)</code>	Find the remainder

Multiplication and Exponents

<code>string * number</code>	Combine that string
<code>string* string</code>	CRASH!
<code>number * number</code>	Multiply (Math)
<code>string ** string</code>	CRASH!
<code>number ** number</code>	Exponent (Math)
<code>string ** number</code>	CRASH!

Area of Triangle

```
def areaOfTriangle(base, hight) :
    return 0.5 * base * hight

user_base = float(input("Enter the base of the
triangle: "))
user_height = float(input("Enter the hight of the
triangle: "))
print ("The area of the triangle is",
areaOfTriangle(user_base, user_height))

def volumeOfPrism(area, high) :
    return area * high

user_prism_high = float(input("Enter the hight of the
prism: "))
print ("The volume of the prism is",
volumeOfPrism(areaOfTriangle(user_base, user_height),
user_prism_high))
```

Reverse Word

```
while True:
    word = input("Please enter a word")
    index = 0
    reverse = ''

    while int(index) < len(word):
        reverse = word[index] + (reverse)
        index = int(index) + 1
    print ("Reverse: ", reverse)
```

Sort fruit list

```
fruits = [] #an empty list
for number in range(5):
    user_fruit = input("Please enter a fruit")
    fruits.append(user_fruit)
print ("Size of fruit list is", len(fruits))
fruits.sort()
for fruit in fruits:
    print ("Fruit: ", fruit)
```



Countdown Machine

```
number = int(input("What number do you want to count
down? "))
countdown_string = ' '
while number > 0:
    countdown_number = countdown_string + str(number)
    + " "
    number = number - 1

print (countdown_string)
```

Area of Circle

```
user_radius = input("What is a radius of a circle?")
radius = float(user_radius)
pi = float(3.1415)
area = pi (radius*2)
print ("The area of the circle is", area)
```

Create List

```
create a function name: createList
argument: quitword
return: a list
def createList(quitword):
    mylist = [] #empty list
    while True: #loop forever
        user_word = input("Please enter a list item:
")
        if user_word == quitword:
            return mylist #returns the list and exits
the function
duplicateword = False
for item in mylist:
    if user_word == item:
        duplicateword = True
if (duplicateword == True):
    print ("Duplicate Word!")
else:
    mylist.append(user_word) #Adds the
user_word to the end of the list
```

Create List (cont)

```
userlist = createList('stop') #Function Call
print (userlist)
```

Function (Ex.)

```
def myprint2(text, decoration): #Text and decoration
is a parameter
    print (decoration + str(text) + decoration)
    return
myprint2("Hello", "+++++")
myprint2("Hello", "--==--==")
myprint2("Hello", "<<<<<<")

+++++Hello+++++
--==--==Hello--====
<<<<<<Hello<<<<<<
```

Palindrome

```
def isPalindrome(word):
    index = 0
    reverse = ''
    while int(index) < len(user_word):
        reverse = user_word[index] + (reverse)
        index = int(index) + 1
    if user_word == reverse:
        return True
    else:
        return False
while True:
    user_word = input("Please enter a word: ")
    if user_word == "quit":
        break

    print("Length of the", user_word, "is",
len(user_word))

    Palindrome = isPalindrome(user_word)
    if Palindrome == True:
        print (user_word, "is a Palindrome!")
    else:
```

Palindrome (cont)

```
print (user_word, "is not a Palindrome")
```

Sort word per line

```
mystr = "Hello"  
letter_num = 0  
while letter_num < len(mystr):  
    print (mystr[letter_num])  
    letter_num = letter_num + 1
```

Convert decimal to binary

```
user_number = ' '  
while user_number != ' 0 ' :  
    user_number = input ("Enter a number to convert to  
binary")  
    number = int(user_number)  
    binary_string = ' '  
    while (number > 0):  
        remainder = number%2  
        binary_string = str(remainder)+ binary_string  
        number = number//2  
    print ("Binary string is", binary_string)
```

Area of Circle by Function

```
def areaOfCircle(r):  
    pi = 3.1415  
    area = pi * r * r  
    return area  
  
user_radius = input("Enter the radius of the circle: ")  
radius = float(user_radius)  
print("The area of the circle is",  
areaOfCircle(radius))
```

Guess word game

```
import random  
guesslist = ['grape', 'orange', 'chloroplast',  
'ribosome', 'lipstick']  
chance = 3  
score = 0  
print (guesslist)  
while chance != 0:  
    random_item = random.choice(guesslist)  
    user_input = input("Please guess a word: ")  
    if user_input == random_item:  
        print ("That's correct!")  
        score = score + 100  
        print ("Score:", score)  
    else:  
        if user_input not in guesslist:  
            print ("Sorry, that isn't even in the  
list!")  
            chance = chance - 1  
            print ("Chance Remaining:", chance)  
        else:  
            print ("Sorry, wrong choice!")  
            chance = chance - 1  
            print ("Chance Remaining:", chance)  
  
if chance == 0:  
    print ("The word was", random_item)  
    print ("The score is", score)
```

Convert binary to decimal

```
num = str(int(input("Enter a binary to convert to  
decimal ")))  
dec = int(num, 2)  
print ("The decimal number is", dec)
```

