

### Words

|          |                                             |
|----------|---------------------------------------------|
| Variable | The information that can change             |
| String   | The list of letters, numbers, symbols       |
| Syntax   | The computer's grammar                      |
| Boolean  | The information that contains true or false |
| Modulo   | Find the remainder                          |

### Math Operations

|    |                                      |                |
|----|--------------------------------------|----------------|
| == | equal to                             | 3 == 3         |
| != | not equal to                         | 3 != 2         |
| +  | plus                                 | 3 + 2 = 5      |
| -  | minus                                | 3 - 2 = 1      |
| *  | times                                | 3 * 2 = 6      |
| /  | divide                               | 9 / 3 = 3      |
| %  | the remainder from divide numbers    | 3 % 2 = 1      |
| ** | power                                | 3 ** 2 = 9     |
| <  | less than                            | 2 < 3          |
| >  | more than                            | 3 > 2          |
| <= | less than or equal to                | 2 <= 3, 3 <= 3 |
| >= | more than or equal to                | 3 >= 2, 3 >= 3 |
| // | divide by not included decimal point | 2//2000 = 0    |

### Calculate the Area of The Circle using def()

```
def areaofcircle(r):
    pi = 3.1415
    area = pi * r * 2
    return area

user_radius = float(input("Enter the Radius: "))
print("The area of the circle is ", areaofcircle(user_radius))
```

### How To Reverse

```
word = input("Enter the word: ")
index = 0
reverse = ''
while index < len(word):
    reverse = word[index] + reverse
    index = index + 1
print("Reverse: ", reverse)
```

### Calculating Fibonacci

```
fibonacci = [0,1]
print(0)
print(1)
while len(fibonacci) < 50:
    number = fibonacci[-1] + fibonacci[-2]
    fibonacci.append(number)
    print(number)
```

### Code & Functions

|         |                                                                                                                                     |
|---------|-------------------------------------------------------------------------------------------------------------------------------------|
| int()   | convert the value into integer with no decimal place                                                                                |
| print() | print the value                                                                                                                     |
| float() | change the value into number with decimal point                                                                                     |
| input() | use for want the user to type text in                                                                                               |
| len()   | use for count the string                                                                                                            |
| str()   | change the value into string                                                                                                        |
| import  | import the code into the list                                                                                                       |
| #       | things after # will not define as a code                                                                                            |
| if/else | things after 'if' is the code that works when the variable is in the condition. If not, the code in the 'else' code will be worked. |
| elif    | to define that there has an 'if/else' code in the other 'else' code                                                                 |
| while   | the code in 'while' section will be repeated along to the condition                                                                 |

### How To Create A List

```
def createlist(quitword):
    print("Keep entering words to add to the list")
    print("Quit when word =", quitword)
    mylist = []
    while True:
        user_word = input("Please enter a list item: ")
        if user_word == (quitword):
```

### How To Create A List (cont)

```
> return mylist
duplicate = False
for item in mylist:
    if item == user_word:
        duplicate = True
if (duplicate == True):
    print ("Duplicate Word!")
else:
    mylist.append(user_word)
userlist = createlist("stop")
print (userlist)
```

### Check The Word is Palindrome or Not

```
def isPalindrome(user_word):
    length = len(user_word)
    while length >= 1:
        firstnumber = 0
        firstletter = user_word[firstnumber]
        lastletter = user_word[length - 1]
        if firstletter == lastletter:
            firstletter = firstnumber + 1
            lastletter = length - 1
            length = length - 2
        if length == 0 or 1:
            return True
        else:
            return False

print ("Keep entering words to check that the word is palindrome or not.")
print ("Quit when word = quit")
```

### Check The Word is Palindrome or Not (cont)

```
> while True:
    user_word = input("Please enter a word: ")
    if user_word == ("quit"):
        break
    else:
        length = len(user_word)
        print ("The length of the word is:", length)
        if isPalindrome(user_word) == True:
            print (user_word, "is a palindrome")
        else:
            print (user_word, "is not a palindrome")
```

### Guessing Game

```
import random
chance = 3
score = 0
while chance > 0:
    print ("Guessing game")
    mylist = ['bowl', 'badminton', 'table tennis', 'basketball', 'golf']
    print ("Words :", mylist)
    randomchoice = random.choice(mylist)
    userguess = input("Please guess a word: ")
    if userguess == randomchoice:
        score = score + 100
        print ("That's Correct! Score: ", score)
        elif userguess in mylist:
            chance = chance - 1
        print ("Sorry, wrong choice !")
    print ("Chance: ", chance)
```

### Guessing Game (cont)

```
> else:
    chance = chance - 1
    print ("Sorry, that is not even in the list!")
    print("Chance: ", chance)
if chance == 0:
    print ("Game Over! The word was ", randomitem)
    print ("Final Score:", score)
```

### Convert Integer into Binary

```
integer = input("Enter number: ")
integer = int(integer)
remainder = integer
binary = ''
while integer != 0:
    remainder = integer % 2
    integer = int(integer / 2)
    remainderstr = str(remainder)
    binary = binary + remainderstr
if integer == 0:
    index = 0
    binary2 = ''
    while index < len(binary):
        binary2 = binary[index] + binary2
        index = index + 1
    print (binary2)
```

### Math Operations

string + combine ("Stop ") + ("Working") = ("Stop Working")

string + crash  
number

number add (3) + (2) = (5)  
+ numbers  
number together

string \* crash  
string

string \* combine ("I") \* (3) = ("III")  
number string many  
times

number multiply (3) \* (2) = (6)  
\* numbers  
number

string crash  
\*\*  
string

string crash  
\*\*

number

number math (3) \*\* (2) = (9)  
\*\* exponents  
number

### Loop & def()

```
#forloop
forlist = [1,2,3]
for item in forlist:
    print(item)
```

```
#whileloop
whilelist = [1,2,3]
whilelen = 0
while whilelen != len(whilelist):
```

### Loop & def() (cont)

```
> print(whilelist[whilelen])
whilelen = whilelen + 1
#show the length of the giving word
print ("Keep entering words to add to the list")
print ("Quit when word = exit")
while True:
    user_word = input("Please enter a list item: ")
    if user_word == ("exit"):
        break
    else:
        length = len(user_word)
        print ("The length of the words is", length, ".")
#type the words in using loop
def theFunction():
    print ("Keep entering words to add to the list")
    print ("Quit when word = stop")
    user_word = input("Please enter a list item: ")
    while True:
        if user_word == ("stop"):
            break
        else:
            user_word = input("Please enter a list item: ")
    return
```

```
theFunction()
#times the number using def()
def computethis(a1,b2):
    compute = a1 * b2
    return compute
a1 = int(input('First Number: '))
```

### Loop & def() (cont)

```
> b2 = int(input('Second Number: '))
print(computethis(a1,b2))
#add stars to the word
def finalFunction(string):
    star = '*' + string + '*'
    print(star)
    return
finalFunction("777")
```