

### Vocabulary

Variable	something that can change
string	list of characters
integer	whole number
float	decimal number
syntax	grammar/ structure of language
modulo	remainder
boolean	true/false

### Example

Print (2) - integer

Print (2.5) - floating point

Print ("Hello") - string

Print (mystr) - variable

Print (mystr,"Hi" ,2,1,0) -- commas

mystr = "Hi"

mystr <- name

"Hi" <- variable can change

print (int(1.5)) -> 1

### Random list

```
# Create a list of
integers and floating
point numbers and strings
mylist = [1.0,1,2,2.0]
random_item =
randomchoice(mylist)
print (mylist,
random_item)
# create a list of the
following variables
myvar1 = 1
myvar2 = 2
myvar3 = 3
```

### Random list (cont)

```
varlist =
[myvar1,myvar2,myvar3]
random_var =
random.choice(varlist)
print (varlist,
random_var)
```

### Loop

```
even Count = 0
odd Count = 0
while True:
    num =
int(input("Enter a
positive integer))
    if num < 0:
        print ("Even
numbers: ", evenCount)
        print ("Odd
numbers: ", oddCount)
        break
    else:
        if (num%2) == 0
            evenCount =
evenCount+ 1
        else:
            oddCount =
oddCount + 1
```

### Ex

```
Example:
- 9 is divisible by 3.
- 7 is not divisible by
3.
user_num = input("Enter
the number: ")
if user_num%3 == 0:
    print(user_num, "is
divisible by 3")
else:
    print(user_num, " is
not divisible by 3")
```

### function continue

```
#function call
testFunction ("this is the
parameter value")
#function with 2
parameters and a return
value
def function3(param1,
param2):
    print('This function
has 2 parameters')
    return param1 + param2
# return value
#function call and store
the result in a variable
returnValue =
function3(2, 3)
print (returnValue)
```

### Countdown string

```
while True:
    user_input =
input("Enter a number: ")
    number =
int(user_input)
    countdown_string= ""
    while number > 0:
        countdown_string
= countdown_string +
str(number)
        number = number
- 1
    print
(countdown_string)
```

The result will be:  
Enter a number: 6  
654321

### Decision Making/Conditional Statements:

```
if 3 < 2: # if statement
must compare two Booleans
    print ('3 is less
than 2')
```

### Decision Making/Conditional Statements: (cont)

```
elif 4 < 2: #can have 0 or
more elif statements
    print ('4 is less
than 2')
elif 5 < 2:
    print ('5 is less than
2')
else: #can have 0 or 1
else statement at the end
    print ('none of the
above are True')
```

### Area of Triangle

```
#return: area
user_base =
float(input('Enter the
base of the triangle: '))
user_height =
float(input('Enter the
height of the triangle:
'))
def
areaOfTriangle(base,height
):
    return 1/2 base height
# or 0.5 base height
print('The area of the
triangle
is',areaOfTriangle(user_ba
se, user_height))
```

### Conditional While Loop

```
count = 0 # start at zero
while count < 10: # loop
while count is less than
10
    print(count)
#will print numbers 0 - 9
    count = count + 1
# must increase count
```

### Radius

```
while True:
    user_radius = input("Please enter the radius of
the circle: ")
    radius = float(user_radius)
    pi = 3.1415
    area = pi radius * 2
    print("The area of the cicle is", area)
```



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