IEEE-CS-AI-24

[1] Python	week [1]	week [2]	week [3]
	datatypes, I/o	functions, DS	python project
	variables, conditions	[list, dic, tuple]	
	loops	error handling	
		files I/O	

week [1] objectives :- datatypes, variables, Type Casting, I/O, conditions, loops Math libary , strings.

video ①

   intro   Why python 1. easiest 2. #1 popularity 3. devs salary

      print (" ")

video ②

   variables & DataTypes   variable_name = value   age = 21

                       cast (variable_name)   str (age)

                    print (" you are " + str(age) + " years old ")

                    print (" you are", age, "years old ")   merig strings

                            make spaces

        → print (f "you are {age} years old ")

DataTypes

    Integers   Whole numbers   2 5
    float   contain float point   1,5 2,7
    String   seirs of characters   "ab" 'ab'
    Boolean true of false   True False

Tips   x, y, z = 1, 2, 3

video ③

Type casting — convert datatype to another

explicit — type (variable) returns datatype
Cast (variable)

age = 21   float (age)   age = 21.0
gpa = 1.9   int (gpa)   gpa = 1

bool (any num) → True ← bool (any str)
bool (zero) → False ← bool (empty str)

Implicit   float = int / float

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video ④

User Input

variable = input (" msg ")
name = input (" What's your name ? ")
age = int (input(" What's your name ? "))

exercises   solved

#1 mad libs
#2 area calc
#3 shopping cart   round (floatvar, 2)

4.12000
4.12

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video ⑤

arithmetic operators

note
x += 2   x = x + 2
x++   x = x + 1

+   -   *   /   %   **
add sub mlt div mod pow

==math functions== built in

round (3.14)	3	
abs (-4)	4	
pow (4,3)	4^3	64
max (2,4,6)	6	
min (2,4,6)	2	

import math

mathaPi   math.e   math.sqrt(   )   math.ceil()
   π   e   √   float up

                                                      math.floor()
exercises   float down

   #4   circumference of a circle
   #5   area of a circle   solved ✓
   #6   hypotenuse calculator

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video ⑥

        boolean
           or
   If statment   if condition :   if condition① :
                          — True   — True①
== >= <=   else :   elif condition② :
                          — False   — True②
                                                 else :
                                                  — False①②

video ⑦ python calculator program
video ⑧ pytho weight conversion   solved ✓
video ⑨ temperatue conversion

video ⑩   ==logical operators==   and   or   not

video (11)

String methods

len()   return integer long of stri

return -1
if none
- String. find()   first occurrence of any
  character
- String. rfind()   last   "

note
you can use
help(str)
to more info

String. capitalize()   makes first letter
capital

String. upper()   all letters is Upper
String. lower()   all letter is lower

String. isdigit()   return boolean true
if only digits

string.index(" ")
finds the index
of character

String. isalpha()   if only characters

String. count(" ")   How many characters
appear

String. replace ("a", "b")

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video (12)

String Indexing

Stringname [start : end : step]
includ   exclud

negative index mean reverse inde

-1 → last character

String [: :-1]   to reverse all string

video ⑬   python email slicer exercise   ✓ solved

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video ⑭

Format specifiers   { value : flags }

can make more than one   { float : .2f }   3.14
at same time   {   : num }   num of spaces
                 {   :< }   size / left align
there a lot of more   {   :> }   right align
than these examples   {   :^ }   centre align

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video ⑮

While loop   While condition :
                   exeute unit codition is false

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video ⑯   python compound interest calculator   ✓ solved

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video ⑰

for loops   for i in range (start, end):
                             include exclude

you can reverse the range
or add step   #   range can be a string
                       countine Heyword to skip and go
                       to next index.

==video ⑱==

==Nested loops==   outer loop:

inner loop:

note
if you wanna print
in same line
print(x , end = " ")

default end = "\n"

==video ⑲==   countdown timer program   solved ✓

==video ⑳==   credit card validator