## PRACTICE SHEET 1 SOLUTION

Q1) c) Both implicit and explicit type casting are supported.

Q2) b) False  
Explanation: "False" is a non-empty string, so bool("False") is True.  
So True == False is False.

Q3) b) 20  
Explanation: int('0b1010', 2) → 10 (binary to decimal)  
int('A', 16) → 10 (hexadecimal A is 10)  
Total = 10 + 10 = 20

Q4) b) Python files can include HTML and markdown by default  
Explanation: Markdown is supported natively only in .ipynb (Jupyter Notebook) files, not in .py.

Q5)

n = int(input("Enter a 3-digit number: "))

if n < 100 or n > 999:

print("Error: Not a 3-digit number.")

else:

a = n // 100

b = (n // 10) % 10

c = n % 10

if a\*\*3 + b\*\*3 + c\*\*3 == n:

print("Yes")

else:

print("No")

Q6)

for code in range(0x0900, 0x0906):

print(chr(code), end=" ")

# Output: ऀ ँ ं ः ऄ अ

Q7)

def detect\_file\_type(filename):

ext = filename.split('.')[-1].lower()

if ext in ['txt', 'doc', 'docx']:

return "Text File"

elif ext in ['jpg', 'jpeg', 'png', 'gif']:

return "Image File"

elif ext in ['mp4', 'mkv', 'avi']:

return "Video File"

elif ext in ['pdf']:

return "PDF Document"

else:

return "Unknown Type"

print(detect\_file\_type("image.jpeg"))

Q8)

def ascii\_to\_char(value):

    return chr(value)

print(ascii\_to\_char(65))  # Output: A

Q9)

n, a, b, c = map(int, input().split())

if b < n:

print("NO")

else:

count = 0

count += a

b = b - a

if n - count > c:

print("NO")

else:

print("YES")

Q10)

n = int(input())

k = int(input())

if n == k:

print(0)

elif k > n:

print(n)

elif k == 0:

print(n)

else:

print(n % k)

Q11)

hoops = int(input())

if hoops % 2 == 0:

print(hoops // 2)

else:

print((hoops // 2) + 1)

Q12)

x = 10.75

y = int(x) # Convert to integer → 10

z = float(y) # Convert back to float → 10.0

print(x - z) # Difference → 0.75

Q13)

START

1. Convert the image to black and white (grayscale).

2. Choose ASCII characters to represent brightness:

Light: "."

Medium: "+"

Dark: "#"

3. For each pixel in the image:

a. Check the pixel's brightness.

b. If it is light, use "."

c. If it is medium, use "+"

d. If it is dark, use "#"

4. Print the image as a string of ASCII characters.

END

Q14)

a, b = 5, 10

a = a + b

b = a - b

a = a - b

print(a, b)

or

a, b = 5, 10

a = a ^ b

b = a ^ b

a = a ^ b

print(a, b)

Q15)

from ctypes import cast, POINTER

from comtypes import CLSCTX\_ALL

from pycaw.pycaw import AudioUtilities, IAudioEndpointVolume

def set\_windows\_volume(percent):

devices = AudioUtilities.GetSpeakers()

interface = devices.Activate(IAudioEndpointVolume.\_iid\_, CLSCTX\_ALL, None)

volume = cast(interface, POINTER(IAudioEndpointVolume))

scalar = percent / 100

volume.SetMasterVolumeLevelScalar(scalar, None)

print(f"Volume set to {percent}%")

def get\_volume\_from\_ascii(char):

ascii\_val = ord(char)

if 56 <= ascii\_val <= 75:

return 30

elif 76 <= ascii\_val <= 90:

return 50

elif 91 <= ascii\_val <= 122:

return 90

else:

return None

user\_input = input("Enter a single character (A-Z or a-z): ").strip()

if len(user\_input) == 1 and user\_input.isalpha():

volume = get\_volume\_from\_ascii(user\_input)

if volume is not None:

set\_windows\_volume(volume)

else:

print("Character not in expected ASCII range (56–122)")

else:

print("Please enter a valid single alphabet character."