VAULTOFCODES

***ASSIGNMENT -1***

**TASK-1:**

CODE 1:

* The given code is executed and verified successfully there is no errors in the given code
* Correct code:

def reverse\_string(s):

reversed = ""

for i in range(len(s)-1,-1,-1):

reversed += s[i]

return reversed

def main():

input\_string = "Hello, world!"

reversed\_string = reverse\_string(input\_string)

print(f"Reversed string: {reversed\_string}")

if \_\_name\_\_ == "\_\_main\_\_":

main()

CODE 2:

* It is a TypeError: '>=' not supported instances of 'str' and 'int'
* CORRECT CODE:

def get\_age():

age = input("Please enter your age: ")

if age.isnumeric() and int(age) >= 18:

return int(age)

else:

return None

def main():

age = get\_age()

if age:

print(f"You are {age} years old and eligible.")

else:

print("Invalid input. You must be at least 18 years old.")

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if \_\_name\_\_ == "\_\_main\_\_":

main()

* The error message "TypeError: '>=' not supported between instances of 'str' and 'int'" indicates that you are trying to use the greater-than-or-equal-to (>=) comparison operator between a string (str) and an integer (int). In Python, certain operations, like numerical comparisons, are only supported between compatible data types.

CODE-3:

* The given code successfully verified and executed,it is opening a file and writing the content of the file into upper case .
* CORRECT CODE:

def read\_and\_write\_file(filename):

try:

with open(filename, 'r') as file:

content = file.read()

with open(filename, 'w') as file:

file.write(content.upper())

print(f"File '{filename}' processed successfully.")

except Exception as e:

print(f"An error occurred: {str(e)}")

def main():

filename = "sample.txt"

read\_and\_write\_file(filename)

if \_\_name\_\_ == "\_\_main\_\_":

main()

CODE-4:

* The program is successful verified and executed successfully
* The code is successfully perfoming the the merge sort algorithm and out is produced correctly.
* CORRECT CODE:

def merge\_sort(arr):

    if len(arr) <= 1:

        return arr

    mid = len(arr) // 2

    left = arr[:mid]

    right = arr[mid:]

    merge\_sort(left)

    merge\_sort(right)

    i = j = k = 0

    while i < len(left) and j < len(right):

        if left[i] < right[j]:

            arr[k] = left[i]

            i += 1

        else:

            arr[k] = right[j]

            j += 1

        k += 1

    while i < len(left):

        arr[k] = left[i]

        i += 1

        k += 1

    while j < len(right):

        arr[k] = right[j]

        j += 1

        k += 1

arr = [38, 27, 43, 3, 9, 82, 10]

merge\_sort(arr)

print(f"The sorted array is: {arr}")