hw.py

```python

# qucation 1

def extract_firstwords(filename):
    first_words = []

    with open(filename, 'r') as file:
        for line in file:
            words = line.strip().split()
            if words:  # check line is not empty
                first_words.append(words[0])

    return first_words


# Function call
result = extract_firstwords('sample.txt')

# Print the result
print(result)


# question 2

def copy_file():
    # Open both files using context manager
    with open('a.txt', 'r') as source_file, open('b.txt', 'w') as destination_file:
        # Read and write line by line
        for line in source_file:
            destination_file.write(line)

    print("File copied successfully from a.txt to b.txt")


# Function call
copy_file()

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# question  3

def count_words_per_line():
    with open('story.txt', 'r') as file:
        line_number = 1

        for line in file:
            words = line.split()
            word_count = len(words)
            print(f"Line {line_number}: {word_count} words")
            line_number += 1


# Function call
count_words_per_line()

# question no 5
def count_lines():
    line_count = 0

    with open('story.txt', 'r') as file:
        for _ in file:
            line_count += 1

    print("Total number of lines:", line_count)


# Function call
count_lines()

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# qeation no 4
def count_lines():
    line_count = 0

    with open('story.txt', 'r') as file:
        for _ in file:
            line_count += 1

    print("Total number of lines:", line_count)


# Function call
count_lines()


# question no 6

def square_numbers():
    with open('numbers.txt', 'r') as source_file, open('squared.txt', 'w') as dest_file:
        for line in source_file:
            number = int(line.strip())      # convert string to int
            squared = number * number       # calculate square
            dest_file.write(str(squared) + '\n')  # convert to string and write

    print("Squares written to squared.txt")


# Function call
square_numbers()
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square_numbers()


# question no 7

def add_to_log():
    message = input("Enter a message: ")

    with open('history.log', 'a') as file:
        file.write(message + '\n')

    print("Message added to history.log")


# Function call
add_to_log()


# question no 8

def convert_to_uppercase():
    with open('input.txt', 'r') as source_file, open('output.txt', 'w') as dest_file:
        for line in source_file:
            dest_file.write(line.upper())


# Function call
convert_to_uppercase()


```