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**QUESTION 1:**

**Write a python program to implement simple calculator which perform addition, subtraction, multiplication, and division.**

**QUESTION 2:**

**Write a python program to reverse a content a file and store it in another file.**

**QUESTION 3:**

**Write a python program to implement binary search with recursion.**

**QUESTION 4:**

**Write a python program to sort words in alphabetical order.**

**PYTHON APPLICATION WITH ALL FUNCTIONS:**

# Write a python program to implement simple calculator which perform addition,

# subtraction, multiplication, and division.

def add(a, b):

return a+b

def sub(a, b):

return a-b

def mul(a, b):

return a\*b

def div(a, b):

return a/b

def q1():

a, b = [int(x) for x in input("Enter a and b: ").split()][:2]

print(f"Adding: {add(a,b)}")

print(f"Subtracting: {sub(a,b)}")

print(f"Multiplying: {mul(a,b)}")

print(f"Dividing: {div(a,b)}")

# Write a python program to reverse a content a file and store it in another file.

def rev(srcpath, destpath):

data = ""

try:

with open(srcpath) as f:

data = f.read()

except IOError:

print("Open Error")

with open(destpath, 'w') as f:

f.write(data[::-1])

def q2():

rev("src.txt", "dest.txt")

print("Copied reverse of file into another file")

# Write a python program to implement binary search with recursion.

def bsearch(arr, key, left, right):

if left > right:

print("-1")

mid = (left+right)//2

if arr[mid] == key:

print(f"{mid}")

elif arr[mid] < key:

bsearch(arr, key, mid+1, right)

else:

bsearch(arr, key, left,mid-1)

def q3():

a = [int(x) for x in input("Enter elements: ").split()]

key = int(input("Enter key: "))

bsearch(a, key, 0, len(a)-1)

# Write a python program to sort words in alphabetical order.

def get\_words\_in\_lower\_case():

words = input("Enter list of words: ").split()

words = [x.lower() for x in words]

return words

def q4():

words = get\_words\_in\_lower\_case()

words.sort()

print(words)

# main function calling all the four solutions

def main():

q1()

print()

q2()

print()

q3()

print()

q4()

if \_\_name\_\_ == '\_\_main\_\_':

main()

