**BATIN, KATRINA RICCI C.**

**BSCOE 2-6**

**Subject:** Data Structure and Algorithm

**Lab Activity:** Python review

**Deadline:** Oct 2, 11:59pm

**Upload your answer :** <https://docs.google.com/forms/d/e/1FAIpQLSdoc8mZxIanXUEOF_j5-1C1NCB9Makd-yTV2_WH_wROIVBOrQ/viewform?usp=pp_url>

1. Diamond Shape:

Write a Python function named print diamond that takes an odd integer n as an argument and prints a diamond shape with a width of n using the \* character.

For n = 5, the output should be:

\*

\*\*\*

\*\*\*\*\*

\*\*\*

\*

Note: If an even number is passed, the function should return "Please provide an odd integer."

**SOURCE CODE:**

def print\_diamond(n):  
 # Check if n is an odd integer  
 if n % 2 == 0:  
 return "Please provide an odd integer."  
  
 # Print the upper part of the diamond  
 for i in range(1, n // 2 + 2):  
 spaces = " " \* ((n // 2 + 1) - i)  
 superstars = "\*" \* (2 \* i - 1)  
 print(spaces + superstars)  
  
 # Print the lower part of the diamond  
 for i in range(n // 2, 0, -1):  
 spaces = " " \* ((n // 2 + 1) - i)  
 superstars = "\*" \* (2 \* i - 1)  
 print(spaces + superstars)  
  
  
# Test the function with n = 5  
n = 5  
result = print\_diamond(n)  
if result == "Please provide an odd integer.":  
 print(result)

**OUTPUT**

A screenshot of a computer program

Description automatically generated

1. Create a program that will delete all duplicate characters in a string.

Input starts with a number N and is followed by N strings

**Output:** Print the character with all the duplicate characters removed.

**Sample Input #1**

4

Harrenhal

Drogos

Thoros of Myr

Iron Born

**Sample Output #1**

enl

Drgs

ThsfMy

IB

**SOURCE CODE:**

# Function to remove duplicate characters from a string  
def remove\_duplicates(input\_str):  
 result = ""  
 seen = set()  
 duplicate = set()  
  
 for char in input\_str:  
 if char not in seen and char != ' ':  
 seen.add(char)  
 # Add in duplicate  
 elif char in seen:  
 duplicate.add(char)  
  
 # Refining the results  
 for char in seen:  
 if char not in duplicate:  
 result += char  
  
 return result  
  
# Input the number of strings  
N = int(input("Indicate the number of strings: "))  
  
# # Input and process each string  
print("Type your strings")  
strings = []  
for \_ in range(N):  
 string = input()  
 strings.append(string.lower())  
  
for string in strings:  
 modified\_string = remove\_duplicates(string)  
 print(modified\_string)

Z

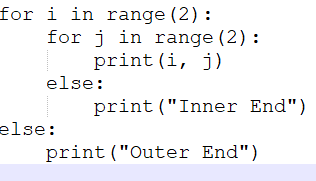
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**OUTPUT**

A screenshot of a computer program

Description automatically generated

1. What is the output of the code below:



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