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Subject - AI ML Assignment 11

1)a)n = int(input("Enter the number of rows: "))

for i in range(1, n+1):

print('\*' \* i)

b)n = int(input("Enter the number of rows: "))

for i in range(1, n+1):

print(str(i) \* i)

c)n = int(input("Enter the number of rows: "))

for i in range(1, n+1):

for j in range(1, i+1):

print(j, end='')

print()

d)n = int(input("Enter the number of rows: "))

start\_num = 2

for i in range(1, n+1):

for j in range(i):

print(start\_num, end='')

start\_num += 1

print()

e)n = int(input("Enter the number of rows: "))

for i in range(1, n+1):

for j in range(i):

if (i+j) % 2 == 0:

print("1", end='')

else:

print("0", end='')

print()

f)n = int(input("Enter the number of rows: "))

num = 1

for i in range(1, n+1):

for j in range(i):

print(num, end='')

num += 1

print()

g)n = int(input("Enter the number of rows: "))

for i in range(1, n+1):

for j in range(n, n-i, -1):

print(j, end='')

print()

h)n = int(input("Enter the number of rows: "))

for i in range(n, 0, -1):

for j in range(i):

print(i, end='')

print()

i)n = int(input("Enter the number of rows: "))

for i in range(n, 0, -1):

print('\*' \* i)

j)n = int(input("Enter the number of rows: "))

num = n

for i in range(1, n+1):

print(str(num) \* i)

num -= 1

k)n = int(input("Enter the number of rows: "))

for i in range(n, 0, -1):

for j in range(1, i+1):

print(j, end='')

print()

l)n = int(input("Enter the number of rows: "))

for i in range(n, 0, -1):

for j in range(i):

print(i, end='')

print()

m)n = int(input("Enter the number of rows: "))

for i in range(n, 0, -1):

for j in range(n, n-i, -1):

print(j, end='')

print()

2)r)n = int(input("Enter the number of rows: "))

for i in range(1, n+1):

spaces = " " \* (n-i)

stars = "\*" \* (2\*i - 1)

print(spaces + stars)

s)n = int(input("Enter the number of rows: "))

for i in range(1, n+1):

spaces = " " \* (n-i)

numbers = str(i) \* (2\*i - 1)

print(spaces + numbers)

t)n = int(input("Enter the number of rows: "))

num = 1

for i in range(1, n+1):

spaces = " " \* (n-i)

numbers = "".join(str(j) for j in range(1, 2\*i))

print(spaces + numbers)

u)n = int(input("Enter the number of rows: "))

for i in range(1, n+1):

spaces = " " \* (n-i)

stars = "\*" \* (2\*i - 1)

print(spaces + stars)

3)v)n = int(input("Enter the number of rows: "))

for i in range(1, n+1):

spaces = " " \* (n - i)

numbers = ""

for j in range(1, i+1):

numbers += str(j)

for j in range(i-1, 0, -1):

numbers += str(j)

print(spaces + numbers)

w)n = int(input("Enter the number of rows: "))

for i in range(1, n+1):

spaces = " " \* (n - i)

numbers = ""

for j in range(n, n-i, -1):

numbers += str(j)

for j in range(n-i+2, n+1):

numbers += str(j)

print(spaces + numbers)

x)n = int(input("Enter the number of rows: "))

for i in range(n, 0, -1):

spaces = " " \* (n - i)

stars = "\*" \* (2\*i - 1)

print(spaces + stars)

y)n = int(input("Enter the number of rows: "))

for i in range(n, 0, -1):

spaces = " " \* (n - i)

numbers = str(i) \* (2\*i - 1)

print(spaces + numbers)

z)n = int(input("Enter the number of rows: "))

for i in range(n, 0, -1):

spaces = " " \* (n - i)

numbers = " ".join(str(x) for x in range(1, 2\*i))

print(spaces + numbers)

z1)n = int(input("Enter the number of rows: "))

for i in range(n, 0, -1):

spaces = " " \* (n - i)

numbers = " ".join(str(x) for x in range(i, 2\*i))

print(spaces + numbers + str(i))

z2)n = int(input("Enter the number of rows: "))

for i in range(n, 0, -1):

spaces = " " \* (n - i)

numbers = " ".join(str(x) for x in range(n, n-i, -1))

print(spaces + numbers + numbers[::-1])

4)z3)n = int(input("Enter the number of rows: "))

# Upper half of the pattern

for i in range(n):

spaces = " " \* (n - i - 1)

stars = "\*" \* (2 \* i + 1)

print(spaces + stars)

# Lower half of the pattern

for i in range(n - 2, -1, -1):

spaces = " " \* (n - i - 1)

stars = "\*" \* (2 \* i + 1)

print(spaces + stars)

z4)n = int(input("Enter the number of rows: "))

# Upper half of the pattern

for i in range(1, n + 1):

spaces = " " \* (n - i)

numbers = str(i) \* (2 \* i - 1)

print(spaces + numbers)

# Lower half of the pattern

for i in range(n - 1, 0, -1):

spaces = " " \* (n - i)

numbers = str(i) \* (2 \* i - 1)

print(spaces + numbers)

z5)n = int(input("Enter the number of rows: "))

# Upper half of the pattern

for i in range(1, n + 1):

spaces = " " \* (n - i)

numbers = "".join(str(x) for x in range(1, 2 \* i))

print(spaces + numbers)

# Lower half of the pattern

for i in range(n - 1, 0, -1):

spaces = " " \* (n - i)

numbers = "".join(str(x) for x in range(1, 2 \* i))

print(spaces + numbers)

z6)n = int(input("Enter the number of rows: "))

# Upper half of the pattern

for i in range(1, n + 1):

spaces = " " \* (n - i)

numbers = "".join(str(x % 10) for x in range(i, 2 \* i))

print(spaces + numbers + str(i))

# Lower half of the pattern

for i in range(n - 1, 0, -1):

spaces = " " \* (n - i)

numbers = "".join(str(x % 10) for x in range(i, 2 \* i))

print(spaces + numbers + str(i))

z7)n = int(input("Enter the number of rows: "))

# Upper half of the pattern

for i in range(1, n + 1):

spaces = " " \* (n - i)

numbers = "".join(str(x % 10) for x in range(n, n - i, -1))

print(spaces + numbers)

# Lower half of the pattern

for i in range(n - 1, 0, -1):

spaces = " " \* (n - i)

numbers = "".join(str(x % 10) for x in range(n, n - i, -1))

print(spaces + numbers)

1. To print the pattern

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The python code is given below

n = 7 # Number of rows

for i in range(n):

print("\*" \* n)

To print the pattern

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The python code is given below

n = 7 # Number of rows

for i in range(n):

if i == 0 or i == n-1:

print("\*" \* n)

else:

print("\*" + " " \* (n-2) + "\*")

To print the pattern

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The python program is given below

n = 7 # Number of rows

for i in range(n):

pattern = ""

for j in range(n):

if j == i:

pattern += "\\"

elif j == n - i - 1:

pattern += "/"

else:

pattern += "\*"

print(pattern)

5)a)n = 11 # Number of rows

m = 33 # Number of columns

welcome = "WELCOME"

for i in range(n):

if i == n // 2:

line = welcome.center(m, "-")

else:

line = ".|." \* (2\*i + 1)

line = line.center(m, "-")

print(line)

b)n = 17 # Number of rows

for i in range(n):

line = ""

for j in range(n):

if j <= i:

line += chr(96 + n - j)

else:

line += "-"

for j in range(n - 1, -1, -1):

if j <= i:

line += chr(97 + n - j)

else:

line += "-"

print(line.center(2\*n - 1, "-"))