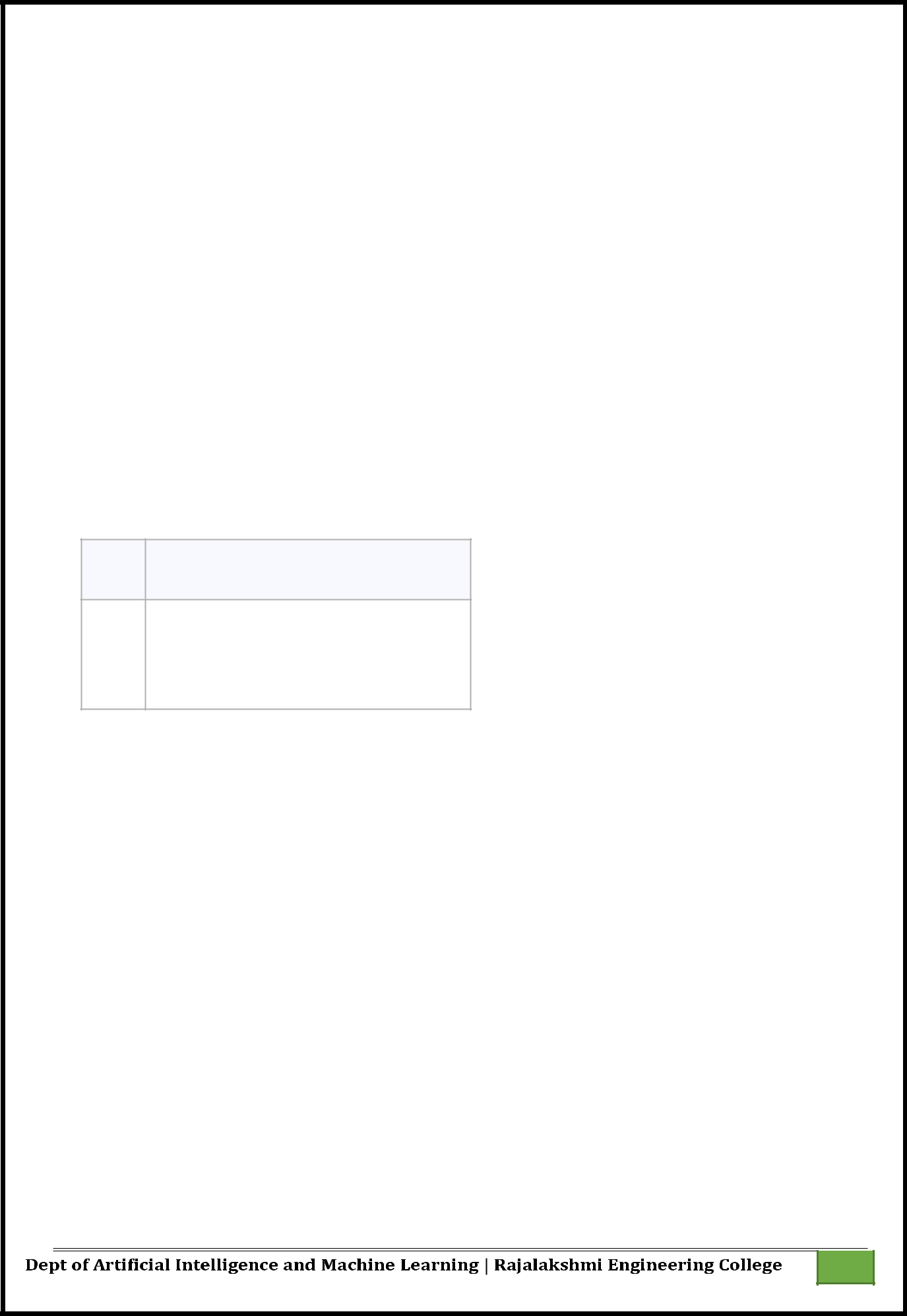


**11 - Exceptions**

. 176

|  |  |  |  |
| --- | --- | --- | --- |
| **Ex. No.** | **:** | **11.1** | **Date:** 1/6/24 |
| **Register No.:231501044** | | | **Name: Edmond Allan A** |
|  |  |  |  |



**Out of Range Numbers**

Problem Description:

Write a Python script that asks the user to enter a number within a specified range (e.g., 1 to 100). Handle exceptions for invalid inputs and out-of-range numbers.

Input Format:

User inputs a number.

Output Format:

Confirm the input or print an error message if it's invalid or out of range.

**For example:**

**Input** **Result**

|  |  |
| --- | --- |
| 1 | Valid input. |
|  |  |
| 101 | Error: Number out of allowed range |
|  |  |
| rec | Error: invalid literal for int() |
|  |  |

**PROGRAM**

try:

num = int(input())

if 1 <= num <= 100:

print("Valid input.")

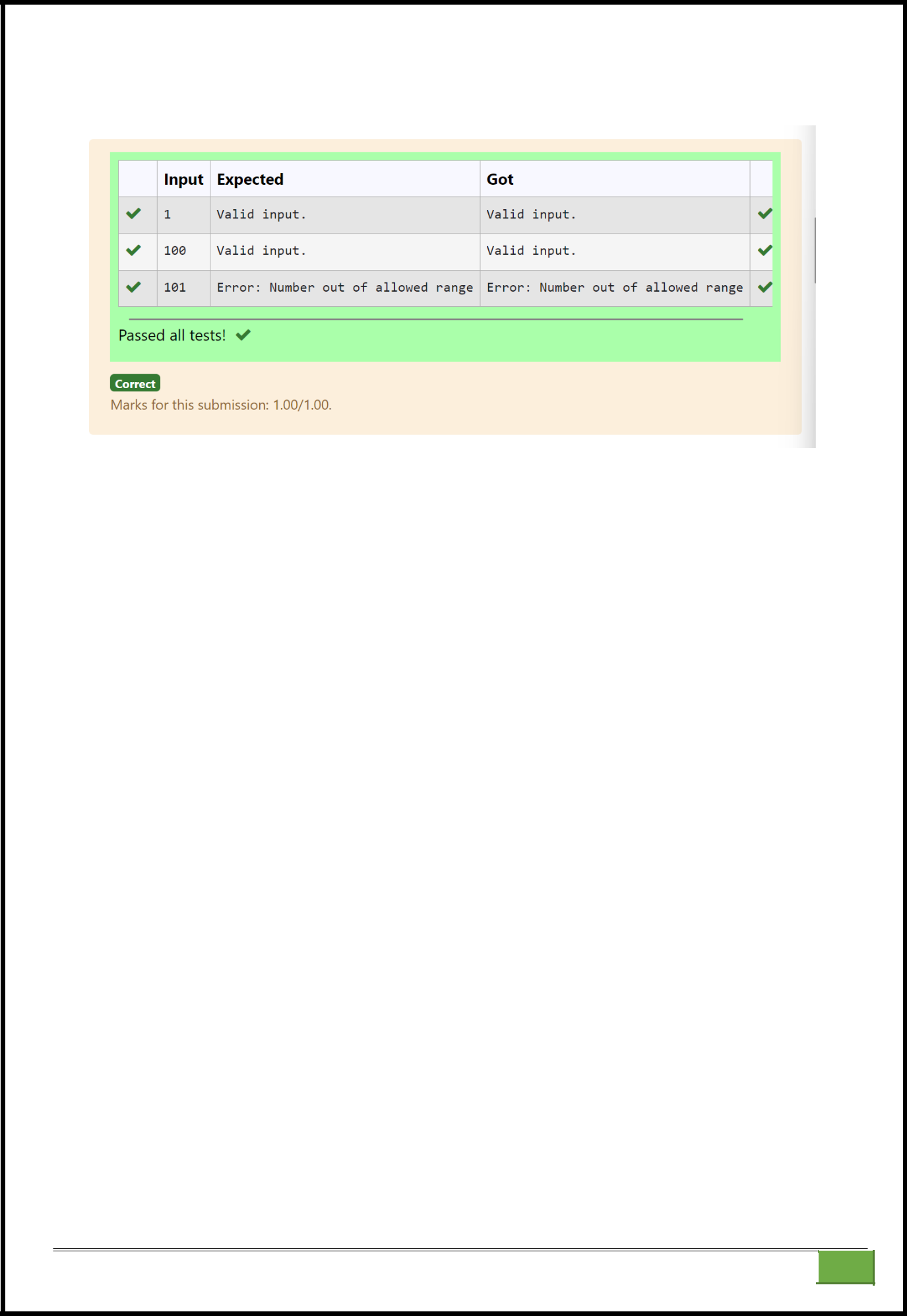
else:

print("Error: Number out of allowed range")

except ValueError:

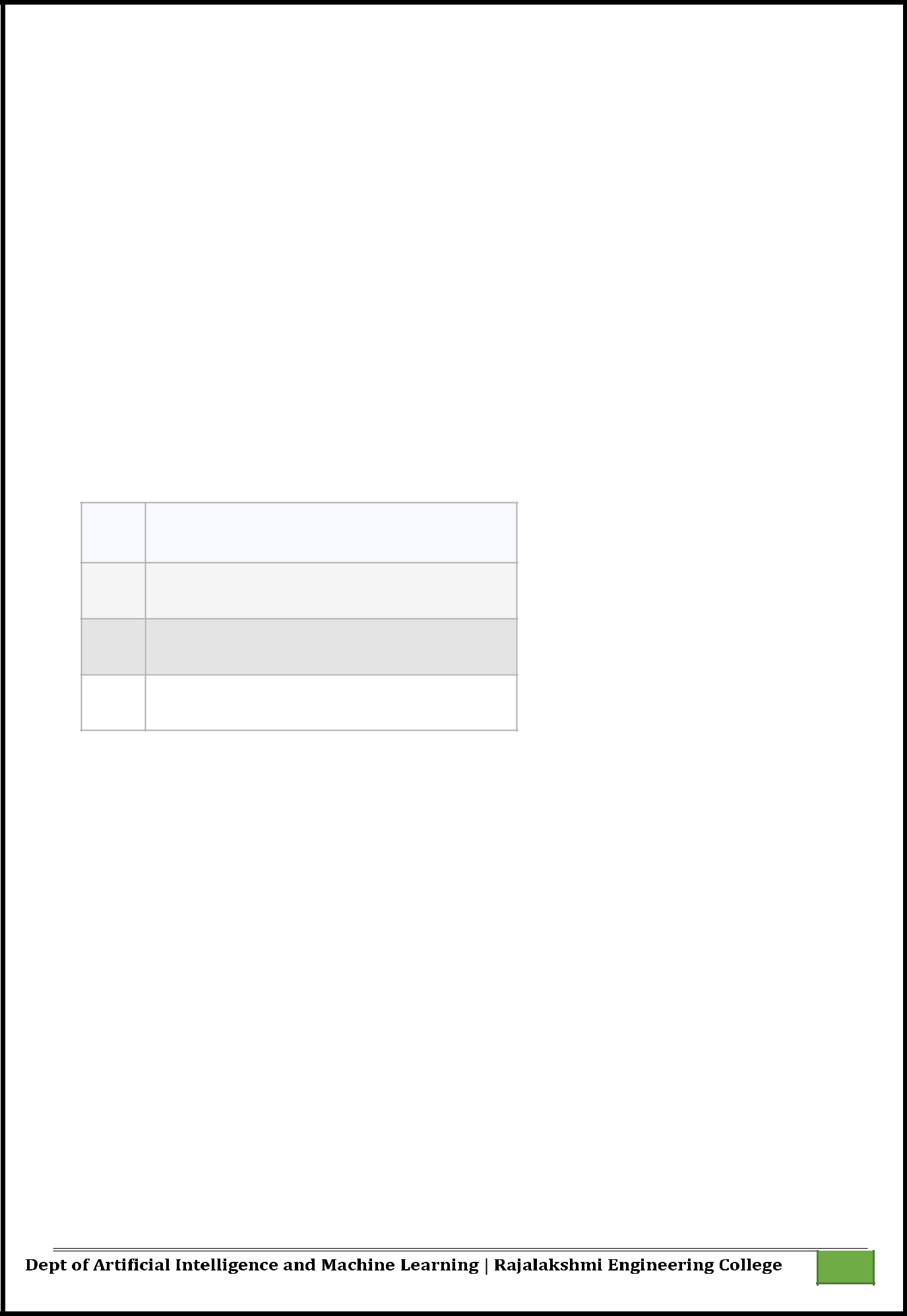
print("Error: invalid literal for int()")

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Output:

. 178

|  |  |  |  |
| --- | --- | --- | --- |
| **Ex. No.** | **:** | **11.2** | **Date:** 1/6/24 |
| **Register No.:231501044** | | | **Name: Edmond Allan A** |
|  |  |  |  |



**Divide by Zero**

Develop a Python program that safely performs division between two numbers provided by the user. Handle exceptions like division by zero and non-numeric inputs.

**Input Format:** Two lines of input, each containing a number.

**Output Format:** Print the result of the division or an error message if an exception occurs.

**For example:**

**Input** **Result**

1. 5.0
2. Error: Cannot divide or modulo by zero.

|  |  |
| --- | --- |
| ten | Error: Non-numeric input provided. |
| 5 |  |
|  |  |

**PROGRAM**

try:

a=int(input())

b=int(input())

print(a/b)

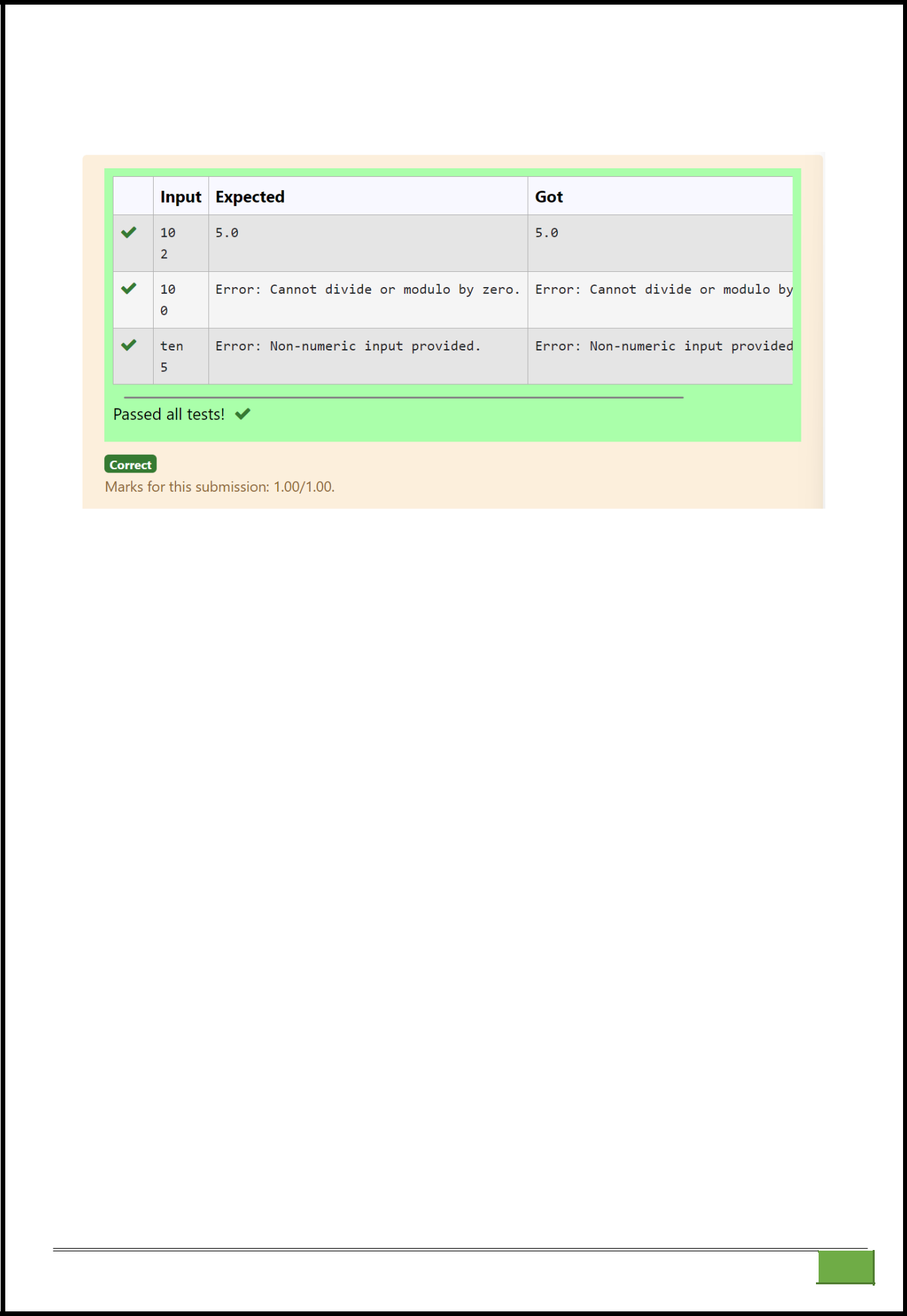
except ValueError:

print("Error: Non-numeric input provided.")

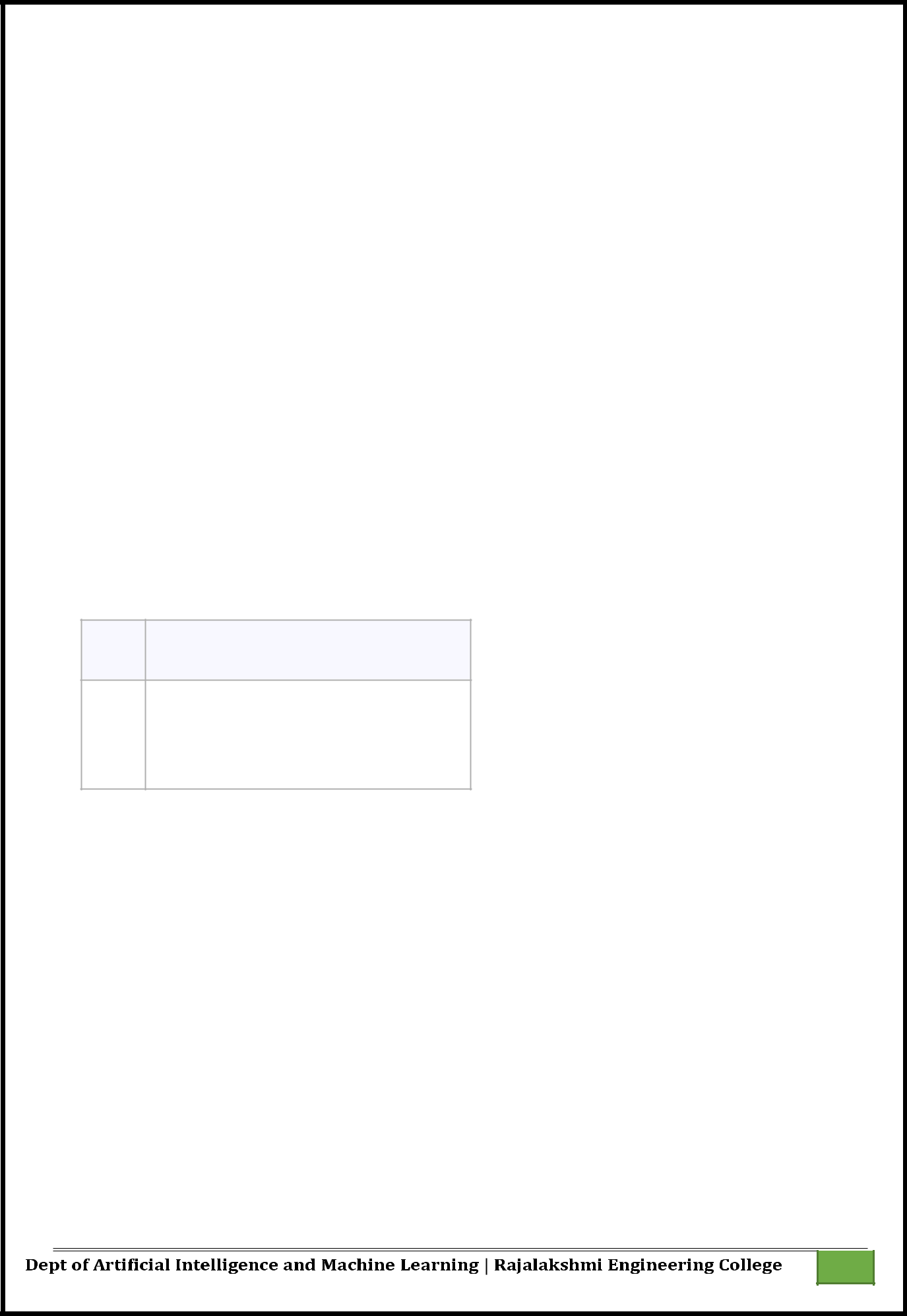
except ZeroDivisionError:

print("Error: Cannot divide or modulo by zero.")

. 179

**Output:**

. 180



|  |  |  |  |
| --- | --- | --- | --- |
| **Ex. No.** | **:** | **11.3** | **Date:** 1/6/24 |
| **Register No.:231501044** | | | **Name: Edmond Allan A** |
|  |  |  |  |

**Valid Age**

Problem Description:

Write a Python script that asks the user to enter a number within a specified range (e.g., 1 to 100). Handle exceptions for invalid inputs and out-of-range numbers.

Input Format:

User inputs a number.

Output Format:

Confirm the input or print an error message if it's invalid or out of range.

**For example:**

**Input** **Result**

|  |  |
| --- | --- |
| 1 | Valid input. |
|  |  |
| 101 | Error: Number out of allowed range |
|  |  |
| rec | Error: invalid literal for int() |
|  |  |

**PROGRAM**

try:

num = int(input())

if 1 <= num <= 100:

print("Valid input.")

else:

print("Error: Number out of allowed range")

except ValueError:

print("Error: invalid literal for int()")

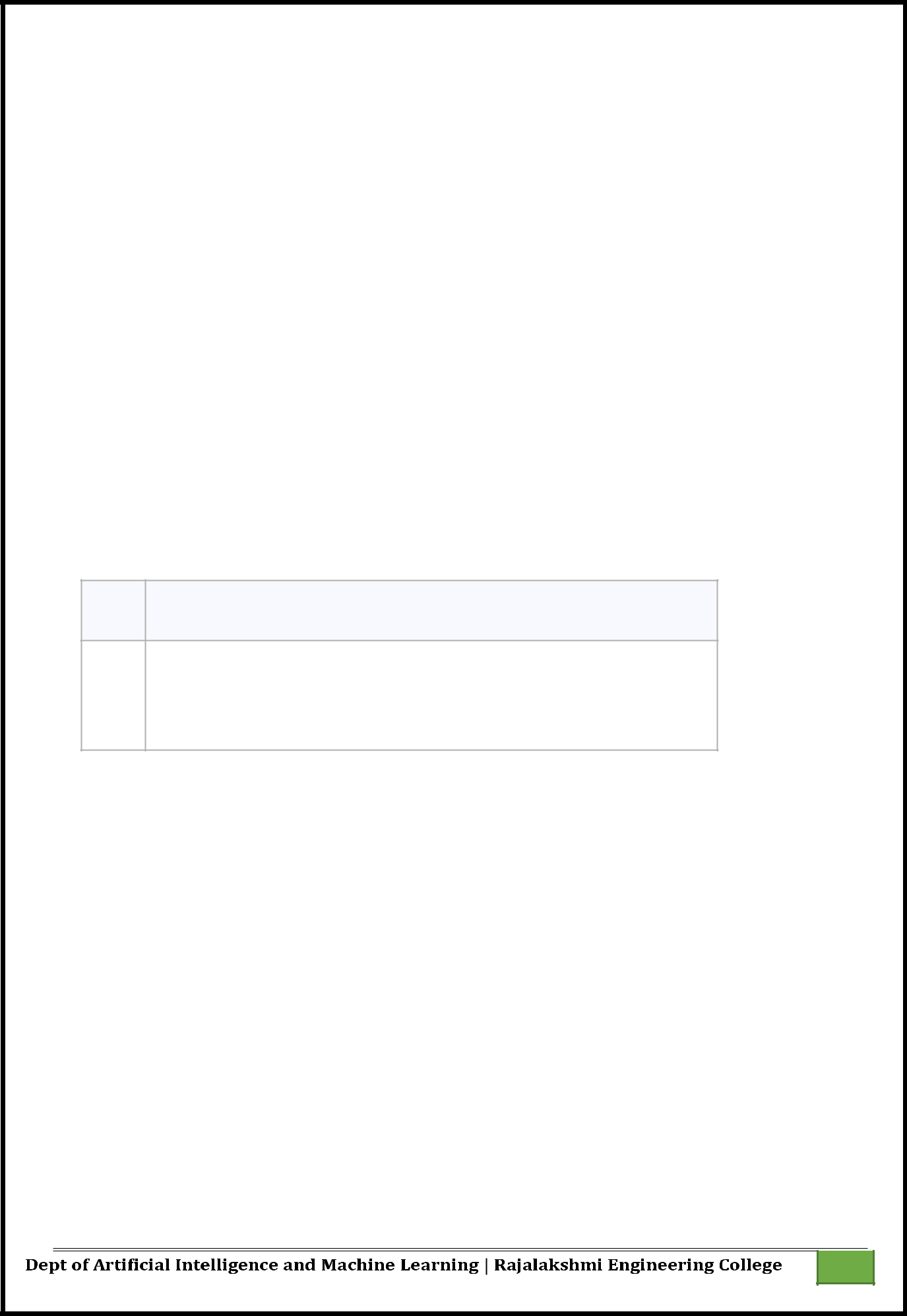
181

.

**Output:**

. 182

|  |  |  |  |
| --- | --- | --- | --- |
| **Ex. No.** | **:** | **11.4** | **Date:** 1/6/24 |
| **Register No.:231501044** | | | **Name: Edmond Allan A** |
|  |  |  |  |



**Safe Square Root**

Problem Description:

Develop a Python program that safely calculates the square root of a number provided by the user. Handle exceptions for negative inputs and non-numeric inputs.

Input Format:

User inputs a number.

Output Format:

Print the square root of the number or an error message if an exception occurs.

**For example:**

**Input** **Result**

|  |  |  |
| --- | --- | --- |
| 16 | The square root of 16.0 is 4.00 |  |
|  |  |  |
| -4 | Error: Cannot calculate the square root of a negative number. |  |
|  |  |  |
| rec | Error: could not convert string to float |  |
|  |  |  |

**PROGRAM**

try:

a=int(input())

if a>=0:

print("The square root of %.1f is %.2f"%(float(a),float(a\*\*0.5)))

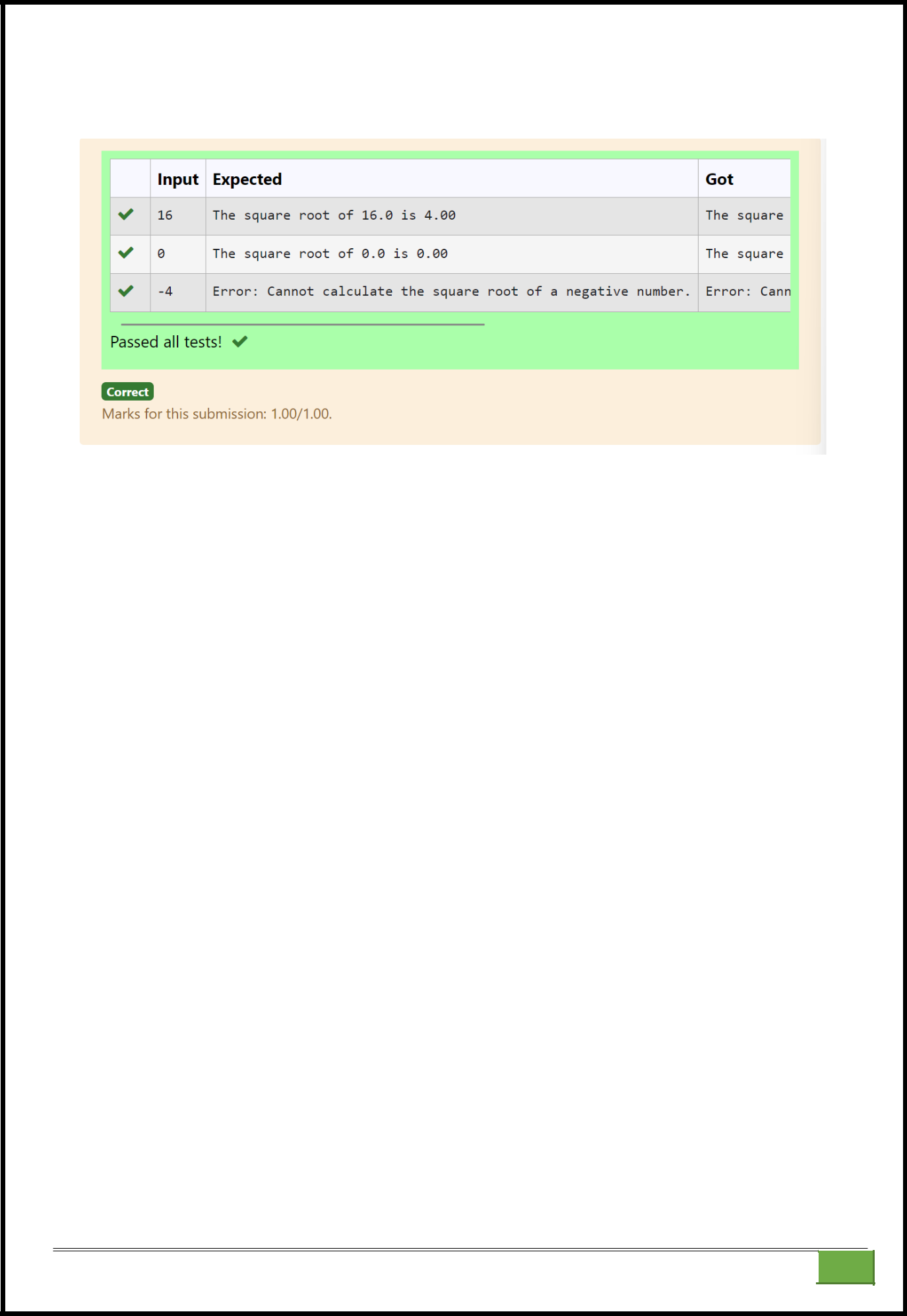
else:

print("Error: Cannot calculate the square root of a negative number.")

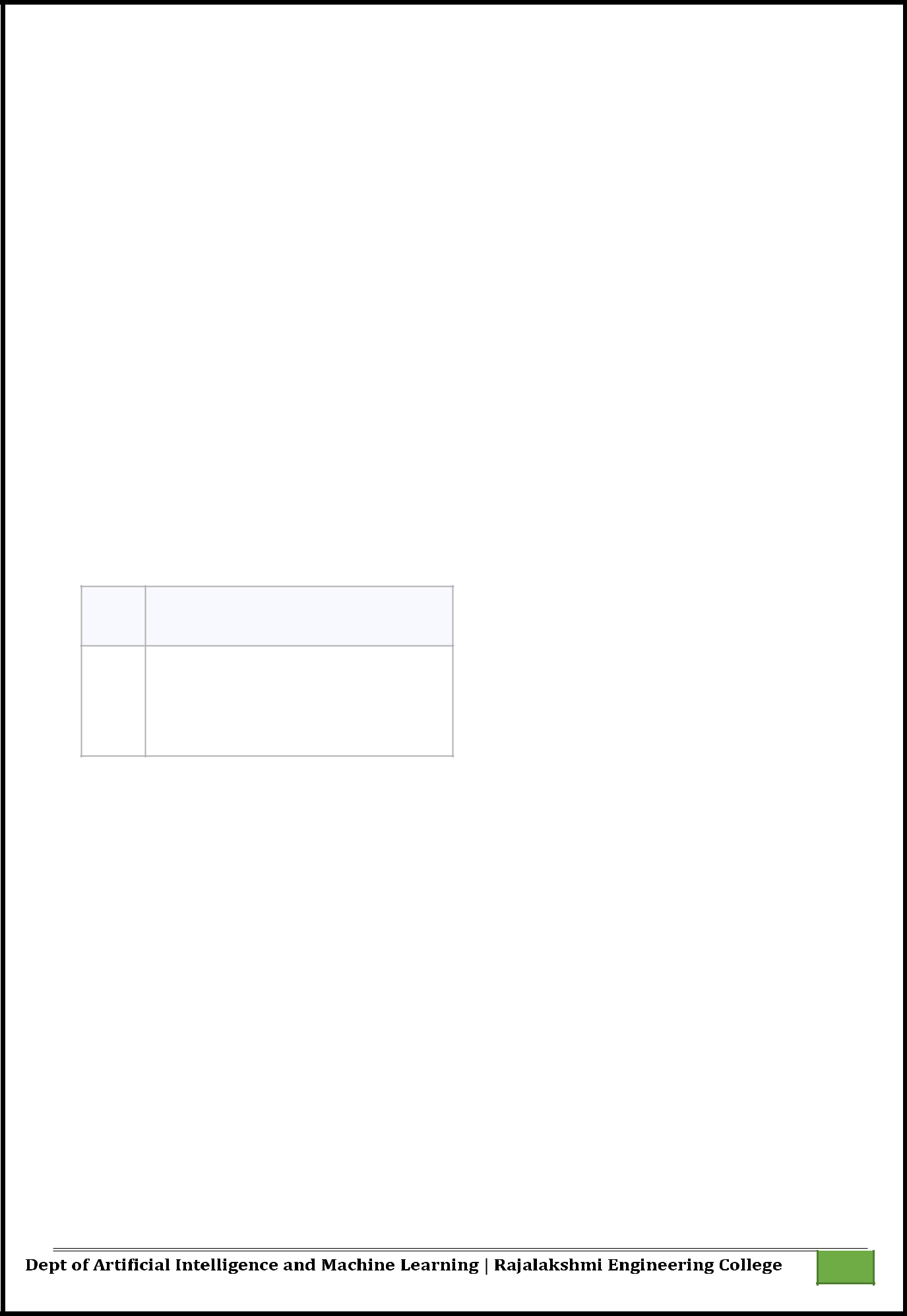
except:

print("Error could not convert string to float")

. 183

**Output:**

. 184



|  |  |  |  |
| --- | --- | --- | --- |
| **Ex. No.** | **:** | **11.5** | **Date:** 1/6/24 |
| **Register No.:231501044** | | | **Name: Edmond Allan A** |
|  |  |  |  |

**Valid Integer**

Problem Description:

Write a Python program that asks the user for their age and prints a message based on the age. Ensure that the program handles cases where the input is not a valid integer.

Input Format:

A single line input representing the user's age.

Output Format:

Print a message based on the age or an error if the input is invalid.

**For example:**

**Input** **Result**

|  |  |  |
| --- | --- | --- |
| 25 | You are 25 years old. |  |
|  |  |  |
| rec | Error: Please enter a valid age. |  |
|  |  |  |
| -5 | Error: Please enter a valid age. |  |
|  |  |  |

**PROGRAM**

try:

n=int(input())

if n>=1:

print("You are",n,"years old.")

else:

print("Error: Please enter a valid age.")

except:

print("Error: Please enter a valid age.")

. 185

Output:

. 186