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| **EX.NO: 03** | **FUNCTIONS** |
| **DATE:** |

# PROGRAM 1:

**Movie Ticket Pricing**

You're writing a function to calculate movie ticket prices based on age. Kids under 12: $5

Seniors (60+): $6 Everyone else: $10 Question:

Write a function calculate\_ticket\_price(age) that returns the correct ticket price. Sample Input:

calculate\_ticket\_price(8) # Output: 5 calculate\_ticket\_price(30) # Output: 10 calculate\_ticket\_price(65) # Output: 6

def calculate\_ticket\_price(age): if age < 12:

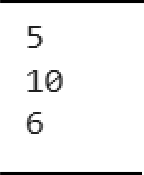
return 5

elif age >= 60: return 6

else:

return 10 print(calculate\_ticket\_price(8)) # Output: 5

print(calculate\_ticket\_price(30)) # Output: 10 print(calculate\_ticket\_price(65)) # Output: 6

**OUTPUT:**

# PROGRAM 2:

You’re building a weather app and need a function to convert temperatures from Celsius to Fahrenheit

**Question**:

Write a function celsius\_to\_fahrenheit(celsius) that returns the Fahrenheit equivalent.

**Sample Input**:

celsius\_to\_fahrenheit(0)       # Output: 32.0

celsius\_to\_fahrenheit(37)      # Output: 98.6

def celsius\_to\_fahrenheit(celsius): return (celsius \* 9/5) + 32

print(celsius\_to\_fahrenheit(0)) # Output: 32.0 print(celsius\_to\_fahrenheit(37)) # Output: 98.6

# OUTPUT:

**PROGRAM 3:**

You're creating a grading system. Given a score (0–100), return a letter grade:

A: 90+

B: 80–89

C: 70–79

D: 60–69

F: below 60

Question:  
Write a function get\_grade(score) that returns the letter grade.

Sample Input:

get\_grade(85)        # Output: "B"

get\_grade(59)        # Output: "F

def get\_grade(score): if score >= 90:

return "A" elif score >= 80:

return "B" elif score >= 70:

return "C" elif score >= 60:

return "D" else:

return "F" print(get\_grade(85)) print(get\_grade(59))

# OUTPUT:

**PROGRAM 4:**

In a text editing app, users want a function that takes a sentence and reverses each word, keeping the word order the same.

Question:  
Write a function reverse\_words(sentence) that reverses the characters of each word.

Sample Input:

reverse\_words("hello world")    # Output: "olleh dlrow"

reverse\_words("python is fun")  # Output: "nohtyp si nuf"

def reverse\_words(sentence): words = sentence.split()

reversed\_words = [word[::-1] for word in words] return ' '.join(reversed\_words)

print(reverse\_words("hello world")) print(reverse\_words("python is fun"))

# OUTPUT:

**PROGRAM 5:**

**Shipping Cost Calculator** :A  company charges shipping based on weight:

Up to 2kg: $5

2–5kg: $10

5kg and above: $15

Question:  
Write a function calculate\_shipping(weight) that returns the shipping cost.

Sample Input:

calculate\_shipping(1.5)     # Output: 5

calculate\_shipping(3.2)     # Output: 10

calculate\_shipping(7.0)     # Output: 15

def calculate\_shipping(weight): if weight <= 2:

return 5

elif weight <= 5: return 10

else:

return 15 print(calculate\_shipping(1.5)) print(calculate\_shipping(3.2)) print(calculate\_shipping(7.0))

# OUTPUT:

**PROGRAM 6:**

**Password Strength Checker**

Scenario: You're building a signup form. The password must be at least 8 characters long and contain at least one uppercase letter, one lowercase letter, and one digit.

Question:  
Write a function is\_strong\_password(password) that returns True if the password is strong, otherwise False.

Sample Input:

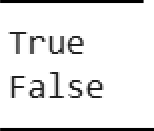
is\_strong\_password("Password123")     # Output: True

def is\_strong\_password(password): if len(password) < 8:

return False

has\_upper = any(c.isupper() for c in password) has\_lower = any(c.islower() for c in password) has\_digit = any(c.isdigit() for c in password) return has\_upper and has\_lower and has\_digit

print(is\_strong\_password("Password123")) print(is\_strong\_password("pass123"))

**OUTPUT:**

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| **DEPARTMENT OF CSE** | | |
| Program | 10 |  |
| Output | 5 |  |
| Viva-Voce | 5 |  |
| Total | 20 |  |