Dr. B.R. Ambedkar National Institute of Technology, Jalandhar

Center for Artificial Intelligence

Assignment 3

M.Tech

(ArtificialIntelligence)
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1. Write a program that takes the user's name and pan card number as input. Validate the information using isX function and print the details.

```
def validate_user_details():
    name = input("Enter your name: ")
    pan_card = input("Enter your PAN card number: ")

    if not name.isalpha():
        print("Invalid name. Please use only alphabets.")
        return
    if not (len(pan_card) == 10 and pan_card[:5].isalpha() and pan_card[5:9].isdigit() and
pan_card[9].isalpha()):
        print("Invalid PAN card number format.")
        return

    print(f"Name: {name}")
    print(f"PAN Card Number: {pan_card}")

validate_user_details()
```

2. Write a program to generate an Abecedarian series. (a series in which elements appears in an alphabetical order)

```
def generate_abecedarian_series(start='a', end='z'):
    series = [chr(letter) for letter in range(ord(start), ord(end) + 1)]
    print("Abecedarian Series:", ' '.join(series))

generate_abecedarian_series()
generate_abecedarian_series('A', 'Z')
```

3. Write a program that counts the occurrences of a character in a string. Do not use built in functions.

```
def count_occurrences(string, char):
    count = 0
     for ch in string:
        if ch == char:
            count += 1
    return count

string = input("Enter a string: ")
char = input("Enter the character to count: ")
print(f"Occurrences of '{char}':", count_occurrences(string, char))
```

4. Write a function that takes a list of words and returns the length of the longest one.

```
def longest_word_length(words):
    max_length = 0
    for word in words:
        if len(word) > max_length:
            max_length = len(word)
    return max_length

words = input("Enter words separated by spaces: ").split()
print("Length of the longest word:", longest_word_length(words))
```

5. Write a function to get the first half of half of a specified string of even length.

```
def first_half_of_half(string):
    if len(string) % 2 == 0:
        return string[:len(string) // 4]
    else:
        return "String length is not even."

string = input("Enter a string of even length: ")
print("First half of half:", first_half_of_half(string))
```

6. Write a program to get a single string from two given strings separated by a space and swap the first two characters of each string.

```
def swap_first_two_chars(str1, str2):
    if len(str1) > 1 and len(str2) > 1:
        swapped = str2[:2] + str1[2:] + " " + str1[:2] + str2[2:]
        return swapped
    else:
        return "Strings must be at least two characters long."

str1 = input("Enter first string: ")
str2 = input("Enter second string: ")
print("Swapped strings:", swap_first_two_chars(str1, str2))
```

7. Write a program to print floating point numbers with no decimal places.

```
def print_without_decimals(number):
    print(f"{int(number)}")

number = float(input("Enter a floating point number: "))
print_without_decimals(number)
```