#1 **Write a program to count word frequencies in a given text**

```
def count_word_frequencies(text):
    words = text.split()
    word_frequencies = {}
    for word in words:
        word = word.strip('.,?!()[]{}"\').lower()
        if word:
            word_frequencies[word] = word_frequencies.get(word, 0) + 1

    return word_frequencies

def main():
    text = input("Enter the text: ")
    frequencies = count_word_frequencies(text)
    print("\nWord frequencies:")
    for word, frequency in frequencies.items():
        print(f"{word}: {frequency}")

if __name__ == "__main__":
    main()
```

output:

```
Enter the text: ashish abhi
Word frequencies:
ashish: 1
abhi: 1
>
```

#2 **Write a program that checks if a given word is a palindrome**

```
def is_palindrome(word):
    word = word.lower()
    word = ''.join(word.split())
    return word == word[::-1]
user_input = input("Enter a word: ")
if is_palindrome(user_input):
    print(f"{user_input} is a palindrome!")
else:
    print(f"{user_input} is not a palindrome.")
```

output:

```
Enter a word: nun
nun is a palindrome!
```

#3 **Create a list of numbers, then write a program that prints the square of each number in the list**

```
numbers = [1, 2, 3, 4, 5]
for number in numbers:
    square = number ** 2
    print(f"The square of {number} is: {square}")
```

output:

```
The square of 1 is: 1
The square of 2 is: 4
The square of 3 is: 9
The square of 4 is: 16
```

The square of 5 is: 25