

8. Write a python program to find the whether the given input is palindrome or not (for both string and integer) using the concept of polymorphism and inheritance.

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class Palindrome:
    def is_palindrome(self, input_value):
        return True

class StringPalindrome(Palindrome):
    def is_palindrome(self, input_value):
        input_value = input_value.lower().replace(" ", "")
        return input_value == input_value[::-1]

class IntegerPalindrome(Palindrome):
    def is_palindrome(self, input_value):
        return str(input_value) == str(input_value)[::-1]

def check_palindrome(input_value):
    if isinstance(input_value, int):
        checker = IntegerPalindrome()
    elif isinstance(input_value, str):
        checker = StringPalindrome()
    else:
        raise ValueError("Invalid input type. Supported types are string and integer.")

    return checker.is_palindrome(input_value)

if __name__ == "__main__":
    input_string = input("Enter a string or an integer: ")
    try:
        result = check_palindrome(input_string)
        if result:
            print(f"{input_string} is a palindrome.")
        else:
            print(f"{input_string} is not a palindrome.")
    except ValueError as e:
        print(e)
```