Assignment 1 - Python (Strings & Functions)

SET A - Strings

1. Check whether a string is Palindrome
Code:
```
string = "madam"
if string == string[::-1]:
  print("Palindrome")
else:
  print("Not Palindrome")
```

2. Reverse the words in a string
```
sentence = "This is python"
print(" ".join(sentence.split()[::-1]))
```

3. Remove the i'th character from a string
```
string = "Python"
i = 2
result = string[:i] + string[i+1:]
print(result)
```

SET B - Strings

1. Print even length words
```
sentence = "This is a python program"
for word in sentence.split():
  if len(word) % 2 == 0:
    print(word)
```

2. Check string contains all vowels
```
string = "education"
vowels = set("aeiou")
if vowels.issubset(set(string)):
  print("Contains all vowels")
else:
  print("Does not contain all vowels")
```

3. Count matching characters in two strings
```
s1 = "python"
s2 = "typhoon"
print(len(set(s1).intersection(set(s2))))
```

SET A - Functions

1. Max of three numbers
```
def find_max(a, b, c):
  return max(a, b, c)
```

2. Sum of list
```
def sum_list(lst):
  return sum(lst)
```

3. Reverse string using function
```
def reverse_string(s):
```

```
  return s[::-1]
```

SET B - Functions

```
1. Unique elements from list
def unique_list(lst):
  return list(set(lst))

2. Prime number check
def is_prime(n):
  if n <= 1:
    return False
  for i in range(2, n):
    if n % i == 0:
      return False
  return True

3. Perfect number check
def is_perfect(n):
  return sum(i for i in range(1, n) if n % i == 0) == n
```