### Assignment 12

**Due on 2023-04-22, 23:59 IST.**

- **Save this file:** Create a new file named `assignment_12.txt` and add all your code and comments within this file. Please do not submit this assignment.

#### Task 1

- **Points:** 3
- **Instructions:** Write a program that implements the following logic: if the total of a transaction is greater than 100, the transaction is approved; otherwise, it is rejected.
- **Example:**
  - Input: `120`
  - Output: `Approved`
  - Input: `80`
  - Output: `Rejected`

#### Task 2

- **Points:** 2
- **Instructions:** Write a program that calculates the sum of all numbers in a list. The list is given as a string of space-separated numbers.
- **Example:**
  - Input: `1 2 3 4 5`
  - Output: `15`

#### Task 3

- **Points:** 2
- **Instructions:** Write a program that checks if a given string is a palindrome.
- **Example:**
  - Input: `racecar`
  - Output: `true`
  - Input: `hello`
  - Output: `false`

#### Task 4

- **Points:** 2
- **Instructions:** Write a program that converts temperatures from Celsius to Fahrenheit and vice versa. The program should handle both conversions.
- **Example:**
  - Input: `25`, `Celsius to Fahrenheit`
  - Output: `77.0`
  - Input: `77`, `Fahrenheit to Celsius`
  - Output: `25.0`

#### Task 5

- **Points:** 2
- **Instructions:** Write a program that checks if a given number is prime.
- **Example:**
  - Input: `17`
  - Output: `true`
  - Input: `18`
  - Output: `false`

#### Task 6

- **Points:** 2
- **Instructions:** Write a program that prints the Fibonacci sequence up to a given number.
- **Example:**
  - Input: `10`
  - Output: `0 1 1 2 3 5 8`

#### Task 7

- **Points:** 2
- **Instructions:** Write a program that sorts a list of integers in ascending order using the selection sort algorithm.
- **Example:**
  - Input: `[5, 2, 9, 1, 7]`
  - Output: `[1, 2, 5, 7, 9]`

#### Task 8

- **Points:** 2
- **Instructions:** Write a program that calculates the factorial of a given number.
- **Example:**
  - Input: `5`
  - Output: `120`

#### Task 9

- **Points:** 2
- **Instructions:** Write a program that checks if a given string is a valid URL.
- **Example:**
  - Input: `https://www.example.com`
  - Output: `true`
  - Input: `ftp://localhost/file.txt`
  - Output: `false`

#### Task 10

- **Points:** 2
- **Instructions:** Write a program that checks if a given string is a valid email address.
- **Example:**
  - Input: `john.doe@example.com`
  - Output: `true`
  - Input: `johndoe@example.net`
  - Output: `false`

#### Task 11

- **Points:** 2
- **Instructions:** Write a program that checks if a given string is a palindromic number.
- **Example:**
  - Input: `12321`
  - Output: `true`
  - Input: `12345`
  - Output: `false`