Programming Assignment 03

-

While loops

Instructions

This programming assignment consists of **2 programming exercises**.
You have to:
1. **download** the empty Python files on NYU Classes
2. **edit** them according to the assignment
3. **verify** on your computer that it works
4. **upload** them back on NYU Classes (**do not change the filenames**)

Exercise 1 - Checking user input

Write a program (in the file `exercise1.py`) that does the following:

- **continuously** asks the user to **input a score** which is an integer between 0 and 100 (inclusive)...
- ...**until** the user enters a correct number (**display a message** if the user did not enter a correct number. see sample examples)
- then finally **prints the corresponding grade**

Table of correspondences score/grade:

Grade	Minimum score (inclusive)
A	95
A-	90
B+	87
B	83
B-	80
C+	77
C	73
C-	70
D+	67
D	63
F	0

Sample example 1 (the user input is in red, the printed output is in blue):

```
Score: 135
Invalid input. Please enter a score between 0 and 100.
Score: -25
Invalid input. Please enter a score between 0 and 100.
Score: 100
Your grade is A
```

Sample example 2:

```
Score: 87
Your grade is B+
```

Sample example 3:

```
Score: 101
Invalid input. Please enter a score between 0 and 100.
Score: 71
Your grade is C-
```

Exercise 2 - Password generator (updated version)

Write a program (in the file `exercise2.py`) that does the following:
1. asks the user to **input a password length** `N` (type: `int`, positive)

2. then, generates and **prints** a random password of `N` characters.

The **valid possible characters** in the password are:
- lowercase letters `a` to `z`

- uppercase letters `A` to `Z`

- digits `0` to `9`

- and some special characters: `~`, `` ` ``, `!`, `@`, `#`, `$`, `%`, `^`, `&`, `*`, `(`, `)`, `_`, `-`, `+`, `=`, `{`, `[`, `}`, `]`, `|`, `\`, `:`, `;`, `"`, `'`, `<`, `,`, `>`, `.`, `?`, and `/`

> **Note**
>
> You **must** use a `while` loop for this exercise.

Sample examples (the user input is in red, the printed output is in blue):

```
Password length: 10
i7Wfgk7X+x
```

```
Password length: 6
>v\zoP
```