Password Generator Project

Assignment: Design an algorithm that can generate a custom, reproducible password that is uniquely different for each website.

Working in pairs, your task is to design and construct a standardized strategy for generating unique passwords for different sites that can later be regenerated by reapplying the same algorithm. Your solution should address the following concepts:
- The algorithm should generate different passwords for different sites.
- The password for any site should be reproducible simply by following the algorithm.
- The algorithm should be easy to remember and apply.
- The password should be complex and difficult to guess.
- The general algorithm should not be easily deduced from the password.

Once you've designed your solution, write out each step of your password-generating algorithm in some form of pseudocode. No specific format is required for your algorithm, but your pseudocode should be clear enough and detailed enough that anyone who is not familiar with how your algorithm is supposed to work can still follow along and apply its steps in generating a valid password.

Your submission will be in the form of a written algorithm (i.e., pseudocode) that explicitly states each of the discrete steps and decisions that must be made in generating a valid password. Also, you must provide at least five examples of passwords that your algorithm would generate for five different sites. One of those examples must be thoroughly annotated, showing how each step of the algorithm contributes to the final password.

Your solution and examples should demonstrate the following properties:
- Clear and readable
- Cleanly formatted
- Appropriate use of sequencing, selection, and/or iteration
- Well-documented examples

Example:
1) Abbreviate the site into a 2-letter phrase.
2) Capitalize the site abbreviation.
3) Type the site abbreviation.
4) Type the number of letters in the site name.
5) Identify the verb that describes how you use the site.
6) Remove all vowels from the verb.
7) Type the vowel-less verb in lowercase letters.
8) Identify the subject or type of content for the site.
9) Capitalize the subject or type of content.
10) Type the capitalized subject or type of content.

"Facebook is where I post to my friends." ... FB8pstBFFS
"Gmail is where I read my mail." ... GM5rdMAIL
"Twitter is where I follow my friends." ... TW7fllwBFFS
"YouTube is where I watch videos." ... YT7wtchVIDEOS

Template

Name
Class
Teacher
Date

Unit 1 Project

Password Generator Algorithm

Step 1: Type all the vowels of the website name (if now vowels in website name, list down all consonants)

Step 2: Type the Main color of the website's logo in lowercase letters. If website has no logo just type "white" as the default

Step 3: Type the number of letters in the main color of the website's logo

Step 4: Type a "W" if the website is intended for work use or a "P" if the website is for personal use

Step 5: Type out your initials in capitalized letters

Step 6: Type out the abbreviation of the country you were born in

Step 7: Type out the Year you were born

Step 8: Type out the number of characters in the website name

Annotated Example:

Website address

Step 1: Type all the vowels of the website name (if now vowels in website name, list down all consonants)

Outcome: YouTube: OUE

Step 2: Type the Main color of the website's logo in lowercase letters. If website has no logo just type "white" as the default

Outcome: YouTube: OUEred

Step 3: Type the number of letters in the main color of the website's logo

Outcome: YouTube: OUEred3

Step 4: Type a "W" if the website is intended for work use or a "P" if the website is for personal use

Outcome: YouTube: OUEred3P

Step 5: Type out your initials in capitalized letters

Outcome: YouTube: OUEred3PYU

Step 6: Type out the abbreviation of the country you were born in

Outcome: YouTube: OUEred3PYUUSA

Step 7: Type out the Year you were born

Outcome: YouTube: OUEred3PYUUSA2002

Step 8: Type out the number of characters in the website name

Outcome: YouTube: OUEred3PYUUSA20027

	Website: Youtube	Website: Facebook	Website: Reddit	Website Snapchat	Website Vine
Step 1	OUE	AEO	EI	A	E
Step 2	OUEred	AEOblue	EIred	Ayellow	Egreen
Step 3	OUEred3	AEOblue4	EIred3	Ayellow6	Egreen5
Step 4	OUEred3P	AEOblue4P	EIred3P	Ayellow6P	Egreen5P
Step 5	OUEred3PYU	AEOblue4PYU	EIred3PYU	Ayellow6PYU	Egreen5PYU

Step 6	OUEred3PYUUSA	AEOblue4PYUUSA	EIred3PYUUSA	Ayellow6PYUUSA	Egreen5PYUUSA
Step 7	OUEred3PYUUSA2002	AEOblue4PYUUSA2002	EIred3PYUUSA2002	Ayellow6PYUUSA2002	Egreen5PYUUSA2002
Step 8	OUEred3PYUUSA20027	AEOblue4PYUUSA20028	EIred3PYUUSA20026	Ayellow6PYUUSA20028	Egreen5PYUUSA20024

Rubric

Content Area	Performance Quality			
Readability 4	Algorithm is typed, organized, and nicely formatted for easy use.	Algorithm is organized and nicely formatted for easy use, but is not typed. —OR— Algorithm is typed, but the formatting and organization makes it somewhat difficult to use.	Algorithm has formatting and organization that makes it somewhat difficult to use AND is not typed. —OR— Algorithm may be typed, but the formatting and organization makes it extremely difficult to use.	Not enough criteria are met in order to award any credit.
Flow 4	The algorithm incorporates the appropriate use of all three types of programming structure: sequencing, selection, and iteration.	The algorithm incorporates the appropriate use of only two types of programming structure: sequencing, selection, and iteration.	The algorithm incorporates the appropriate use of only one type of programming structure: sequencing, selection, and iteration.	Not enough criteria are met in order to award any credit.
Correctness 3.5	The algorithm generates a unique and reproducible password for all sites.	The algorithm generates a reproducible password for all sites, however, some may not be unique. —OR— The algorithm generates a unique and reproducible password for most sites. —OR— The algorithm generates a unique password for all sites, however, it is not reproducible.	The algorithm generates a password for all sites, however, some may not be unique or reproducible. —OR— The algorithm generates a unique and reproducible password for only a few sites.	Not enough criteria are met in order to award any credit.
Effectiveness 3.5	The algorithm cannot be easily deduced from just the password and the name of the site.	A few parts of the algorithm can be easily deduced from just the password and the name of the site.	Most parts of the algorithm can be easily deduced from just the password and the name of the site.	Not enough criteria are met in order to award any credit.

Examples 4	There are five sample passwords generated correctly based on the algorithm.	There are four sample passwords generated correctly based on the algorithm.	There are three or fewer sample passwords generated correctly based on the algorithm.	Not enough criteria are met in order to award any credit.
Documented Case 4	There is one annotated example documented at all steps of the process. —AND— It is well formatted and organized and easy to follow.	There is one annotated example documented at most steps of the process AND It is well formatted and organized and easy to follow. —OR— There is one annotated example documented at all steps of the process, but the organization and formatting makes it difficult to follow.	There is one annotated example documented at some steps of the process AND It is well formatted and organized and easy to follow. —OR— There is one annotated example documented at all steps of the process, but the organization and formatting makes it extremely difficult to follow. —OR— There is one annotated example documented at most steps of the process, but the organization and formatting make it difficult to follow.	Not enough criteria are met in order to award any credit.