

# CS 2316

## Individual Homework- Create Your Own Password!

Due: September 15<sup>th</sup>, 2014 Before 11:55PM

Out of 100 points

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Files to submit: HW3.py

For Help:

- TA Helpdesk Schedule posted on class website
- Use Piazza or email

TA's Notes:

- Don't forget to include the required comments and collaboration statement (as outlined on the course syllabus).
  - Do not wait until the last minute to do this assignment in case you run into problems
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## User Interaction

You will write a few python functions for practice with user interaction and string and list processing. In your HW3.py file, include a comment at the top with your names, section, GTID/Emails, and your collaboration statement. Also include each of the following functions:

1. worldTime()
  2. beyonce()
  3. personalityType()
  4. passwordCreator()
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## FUNCTION NAME: worldTime

Parameters: None

Return Value: (List → list of all integers in your answer)

Description:

1. This function should request that the user select a city from a list of at least six cities with at least four different time zones. Hardcode the cities of your choice into the program. It should not matter in which case the user types the word (i.e. Delhi, delhi, DELHI).
2. The function will then print the current time and date in the city that was chosen.

If anything other than those cities is typed, the question should be repeated. The time should not be in military time and should indicate if it is AM or PM. You do not need to include seconds.

**Note!** Be careful with the date, as it will change if the time difference of the country is far enough ahead or behind.

3. Return a list of all the integers in your time and date. This list will change in length depending on the time and date.

*Hint: The datetime module and datetime.datetime.now() function may be of use to you for this problem!*

Test Cases: (let's say the time is 6:01 PM in Atlanta and the date is 2014-09-02)

• worldTime() ⇒

```
Do you want the time in Coventry, Timbuktu, Delhi, San
Diego, Budapest, or Istanbul? Istanbul
```

```
"The current time in istanbul is 1:01 AM. The date is 2014-09-03"
return [1,0,1,2,0,1,4,0,9,0,3]
```

*note: It is okay to have the time as 01:01 AM, but make sure to add the leading 0 to your final list. The format of your time/date should be reflected in the list.*

• worldTime() ⇒

```
Do you want the time in Coventry, Timbuktu, Delhi, San
Diego, Budapest, or Istanbul? Berlin
```

```
Do you want the time in Coventry, Timbuktu, Delhi, San
Diego, Budapest, or Istanbul? coventRY
```

```
"The current local time in conventry is 11:01 PM. The date is 2014-09-02"
return [1,1,0,1,2,0,1,4,0,9,0,2]
```

## FUNCTION NAME: beyonce

Parameters: None

Return Value: (string → string of your celebrity name)

Description:

This function should ask the user for their information and will create a unique celebrity title depending on their information. It will ask the user to input their name, their birth date, and their gender. It will then create a celebrity name based on the information.

1. If they are male and 21+ old (*this will change depending on the date the function is run not the date the function is created*), the function will take their name up to the second consonant and then add "Z."  
If they are female and 21+, you again take their name up to the second consonant and then add "yonce."  
If the user is under 21 or their gender is listed as "other", then their name must be completely changed to "Kanye."  
A vowel can be considered as "a", "e", "i", "o", or "u"
2. The function must print a lyric of your choice (no profanity please!) with their name in it. You can get creative when it comes to the output as long as the name is clear and obvious.
3. Return the final name (only).

You can assume that all inputs will be in the correct format, but should be able to handle different cases if necessary. If a name only has one consonant, take the entire name.

Test Cases:

- `beyonce()` ⇒

```
What is your name? Ilya
What is your birth date? 07/27/1994
Do you identify as male, female, or other? Male
```

"Brush that dirt off Kanye's shoulders"  
Return "Kanye"

- `beyonce()` ⇒

```
What is your name? Meghna
What is your birth date? 12/03/1992
Do you identify as male, female, or other? female
```

"Say my name, Say my name.....Megyonce"  
Return "Megyonce"

## FUNCTION NAME: `personalityTest`

Parameters: none

Return Value: (String → "A" or "B")

Description:

This function will ask the user a series of questions about their personality. Each answer will fall under one of two different categories, a type A personality or type B personality.

1. The function will use two different lists (provided below) hard coded into the program and iterate through them, asking the user "Would you describe yourself as" the adjective from Type A or Type B (note: the adjective's positions in the lists correspond, i.e. adjective1 in type A list should be compared to adjective1 in type B list).

**Note!** Do not hardcode each entire question into the program.

Type A adjectives: ambitious, rigidly organized, impatient, on-time, high-stress, fast, competitive

Type B adjectives: content, relatively disorganized, patient, late, low-stress, slow, easy going

2. Then the function will take into account each adjective the user selects (lower/upper case should not matter) and calculate the percentage of Type A personality and Type B personality (Type percent = Type score/total questions). The function will also compare the sums of the number of Type A adjectives selected and Type B adjectives selected and diagnose the user on their type of personality (A or B). The output will reveal the user's percentage of Type A and Type B personality and the user's overall personality. The percent should not have any decimals.

3. Finally, return the user's personality type as a letter "A" or "B."

Test Cases:

• `personalityTest()` ⇒

Would you describe yourself as ambitious or content?

ambitious

Would you describe yourself as rigidly organized or relatively disorganized? Rigidly Organized

Would you describe yourself as impatient or patient?

impatient

Would you describe yourself as on-time or late? On-

time

Would you describe yourself as high-stress or low-stress? Low-stress

Would you describe yourself as fast or slow? fast

Would you describe yourself as competitive or easy going? Competitive

**“You are 86% Type A and 14% Type B. Overall, you have a Type A personality.”**

**Return A**

• `personalityTest()` ⇒

Would you describe yourself as ambitious or content? ambitious

Would you describe yourself as rigidly organized or relatively disorganized? Relatively disorganized

Would you describe yourself as impatient or patient? impatient

Would you describe yourself as on-time or late? late

Would you describe yourself as high-stress or low-stress? Low-stress

Would you describe yourself as fast or slow? slow

Would you describe yourself as competitive or easy going? Competitive

**“You are 43% Type A and 57% Type B. Overall, you have a Type B personality.”**

**Return B**

## FUNCTION NAME: passwordCreator

Parameters: None

Return Value: (String → string of a password you encrypted)

Description:

Write a function that uses the output of the previous functions to create a unique password for your user.

1. The function will call your other three functions to get values for the world time and date, Celebrity name, and personality type.
2. For each letter in the user's celebrity name you will shift the letter the number of spaces in the alphabet indicated by the numbers in the world time list (i.e. use the first number in the worldtime list to indicate the shift for the first letter, the second number to indicate the shift for the second letter, etc.).

All numbers leftover should be added to the end of the password. If the user has a Type A personality, the characters should shift right (i.e  $d + 3 = g$ ). If the user has a Type B personality, the characters should shift left (i.e.  $d - 3 = a$ ). You can assume the name will never be longer than the list.

3. The function will not print anything, but will return the final password.

Be careful of shifting past the letter 'z' or before the letter 'a,' you will need to create a way to wrap around the alphabet.

*Hint: You can use `string.ascii_lowercase` and string indexing to help you.*

### Test Cases:

- *Assume previous answers: Megyonce, B, [3,0,1,0,0,2,0,1,4,0,9,0,2])*

`PasswordCreator ()`

Return "jefyolcd40902"

- *Assume previous answers: Kanye, A, [1,0,1,0,0,2,0,1,4,0,9,0,3])*

`PasswordCreator ()`

Return "laoye20140903"

## Grading:

You will earn points as follows for each function that works correctly according to the specifications.

PersonalityTest		20
Properly shows prompt without hardcoding	5	
Properly prints answer with calculation	5	
Properly iterates through lists	10	
Beyonce		20
Properly shows prompt	3	
Properly handles concatenation of strings	7	
Properly distinguishes consonants and vowels	3	
Properly returns output	7	
WorldClock		30
Properly shows prompt	2	
Properly handles changing time	10	
Properly handles changing date	5	
Properly shows output	10	
Properly converts data types	3	
PasswordCreator		30
Uses previously written functions properly	10	
Does correct shift	10	
Returns the correct string	10	

