
Department of Electrical Engineering
Assignment

Date: 07/05/2020

Course Details

_____ **Module:** _____ 02 _____
_____ **Total Marks:** _____ 20 _____

Course Title: Programming Fundamentals

Instructor:

Student Details

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Q1.

Write a Guess the Word program in Python, The user needs to be able to input letter guesses. A limit should also be set on how many guesses they can use. This means you'll need a way to grab a word to use for guessing, this can be grabbed from a pre-made list. You will also need functions to check if the user has actually inputted a single letter, to check if the inputted letter is in the hidden word (and if it is, how many times it appears), to print letters, and a counter variable to limit guesses.

Answer:

```
import random

words = ['rainbow', 'computer', 'science', 'programming',
         'python', 'mathematics', 'player', 'condition',
         'reverse', 'water', 'board', 'geeks']

word = random.choice(words)
print("Guess the characters")

guesses = ''

while turns > 0:

    for char in word:
        if char in guesses:
            print(char)
```

```

else:
    print("_")

    failed += 1

if failed == 0:
    print("You Win")

    print("The word is: ", word)
    break

guess = input("guess a character:")

guesses += guess

if guess not in word:

    turns -= 1

    print("Wrong")

    print("You have", + turns, 'more guesses')

    if turns == 0:
        print("You Loose")

```

Q.2

Write a Password Generator program in Python, which generates a random password for the user. Ask the user how long they want their password to be (minimum 8 to 15 characters), how many letters, symbols and numbers they want in their password. Password generated **MUST** have a mix of upper and lowercase letters, as well as numbers and symbols

Answer:

```

import random
import pyperclip

def low():
    entry.delete(0, END)

    length = var1.get()

    lower = "abcdefghijklmnopqrstuvwxyz"
    upper = "ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz"
    digits = "ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789
!@#$%^&*()"
    password = ""

    if var.get() == 1:
        for i in range(0, length):

```

```

        password = password + random.choice(lower)
    return password

elif var.get() == 0:
    for i in range(0, length):
        password = password + random.choice(upper)
    return password

elif var.get() == 3:
    for i in range(0, length):
        password = password + random.choice(digits)
    return password
else:
    print("Please choose an option")

def generate():
    password1 = low()
    entry.insert(10, password1)

```

Q3

Write a Message Encryption Decryption program in Python, The user will input any text and your program must encrypt the text by using Base64 or HEX. The text must then be decrypted from the encrypted form to show that the decrypted text is the original form.

```

def encrypt(text,s):
    result = ""
    for i in range(len(text)):
        char = text[i]

        if (char.isupper()):
            result += chr((ord(char) + s-65) % 26 + 65)
        else:
            result += chr((ord(char) + s - 97) % 26 + 97)
    return result
text = "CEASER CIPHER DEMO"
s = 4

print "Plain Text : " + text
print "Shift pattern : " + str(s)
print "Cipher: " + encrypt(text,s)

```