

[aps]

{abertay /\*PROGRAMMING\*/ society;}

# Python Automation

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# Announcements

- Discord
- Feedback
- Talks/meetings/workshops/projects/etc to present
  - Currently have nothing for next week

## From last week:

Come pick from the books

3rd place: - (20 points)

2nd place: - (30 points)

1st place: - (67.89 points)

# Counting Characters & words

# Counting Chars + Words

```
#!/usr/bin/env python3
import tkinter as tk
import os

window = tk.Tk();
window.withdraw()

# Prints number of chracters and words in current selection
# Only tested in gnome3 environments

characters = len(window.selection_get())
words = len(window.selection_get().split())

print("characters: %s" % characters)
print("words: %s" % words)
os.system("notify-send 'wccount' 'words: %s, Characters %s'" % (words, characters))

# https://github.com/AR-Calder/PythonAutomation
```

Write a  
Cover letter  
& save as pdf

# Writing a cover letter and saving as pdf

```
[andrew@localhost coverpy]$ cat basictemplate.txt
Dear {{tname}},

I wish to apply for the post of {{position}} advertised recently on {{source}}.
I am a {{study_year}} year {{course}} student at {{university}} University currently tracking towards an First Class Honours degree with distinction.
A copy of my CV is enclosed for your perusal.

I look forward to hearing from you.

Best wishes,
{{yname}}
[andrew@localhost coverpy]$ ./coverpy.py -file basictemplate.txt -yname "Andrew Calder" -tname "Recruiter McRecruiterFace"
Enter value for 'position': Automation Engineer
Enter value for 'source': LinkedIn
Enter value for 'study_year': 4th
Enter value for 'course': Ethical Hacking
Enter value for 'university': Abertay

Finished writing cover letter. That tooks aaages ;)

Dear Recruiter McRecruiterFace,

I wish to apply for the post of Automation Engineer advertised recently on LinkedIn.
I am a 4th year Ethical Hacking student at Abertay University currently tracking towards an First Class Honours degree with distinction.
A copy of my CV is enclosed for your perusal.

I look forward to hearing from you.

Best wishes,
Andrew Calder
```

# <https://github.com/AR-Calder/PythonAutomation>

Creating  
N random  
strings of  
X length



# Creating N random strings of x length

```
#!/usr/bin/env python3
import argparse
import string
import random

def str_generator(size=4, chars=string.ascii_letters + string.digits):
    return ''.join(random.choice(chars) for _ in range(size)) + '\n'

# Arg Parsing
parser = argparse.ArgumentParser()
group = parser.add_argument_group("Required Arguments")
group.add_argument("-l", "--patternlength", nargs='?', default=5, required=True)
group.add_argument("-c", "--count", nargs='?', default=4, required=True)
args = parser.parse_known_args()[0]
with open("len%s_count%s.txt" % (args.patternlength, args.count), "w") as outfile:
    for line in range(int(args.count)):
        outfile.write(str_generator(size=int(args.patternlength)))
# https://github.com/AR-Calder/PythonAutomation
```

Automate the  
things

# General automation tips

```
# Get output directly from a command
subprocess.run("command", stdout=subprocess.PIPE).stdout.decode('utf-8')

# open a file
with open("filename.extension") as f:
    For line in f: # Go through each line in a file

# Regex
# Makes many things easier
entries = re.findall("{(.*)}", f) # find all words in file surrounded by {{word}}
```

# Automated Testing w/ AWS

# Setup outside the Code

## Launch template contents

Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template.

AMI ID

*e.g. ami-12345678*

[Search for AMI](#)



Instance type

Don't include in launch template



Key pair name

Don't include in launch template



Network type



VPC



Classic

Security Groups

Don't include in launch template



# AWS connectivity via Boto3

```
#!/usr/bin/env python3
import sys
import boto3
from botocore.exceptions import ClientError

templateID = 'lt-0857d785b7ca2aefd'
client = boto3.client('ec2')

# Dry run to make sure I have permissions
try:
    client.run_instances(MaxCount=5, MinCount=5, DryRun=True,
                        LaunchTemplate={
                            'LaunchTemplateId': 'lt-0857d785b7ca2aefd',
                            'Version': '2'})
except ClientError as e:
    if 'DryRunOperation' not in str(e):
        print("You don't have permission to reboot instances.")
        raise
...
```

# AWS connectivity via Boto3

...

```
try:
    response = client.run_instances(MaxCount=5, MinCount=5, DryRun=False,
                                     LaunchTemplate={
                                         'LaunchTemplateId': 'lt-0857d785b7ca2aefd',
                                         'Version': '2'})

    print('Success', response)
except ClientError as e:
    print('Error', e)

#This would be the part where the boxes would be ready for use

print('Complete')
```





Any questions?

