COMP1204: Data Management
Coursework One: Hurricane Monitoring

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1 Introduction

As data scientists for the National Oceanographic and Atmospheric Administraiton Centre, I was assigned to the tropical cyclone tracking team. As a data scientist I have been tasked with extracting storm data from the tropical cyclone reports and producing maps of where the cyclones have taken place.

2 Create CSV Script

Algorithm 1 create_csv.sh

Input: input_file, _file

```
#!/bin/bash
csv_input_path=$1
tmp_csv_output=$2

echo "Timestamp,Latitude,Longitude,MinSeaLevelPressure,MaxIntensity" > $tmp_csv_output
dtg="$(grep -R "<dtg>" $csv_input_path | sed 's/.*<dtg>//g' | sed 's/[</dtg>]//g')"
grep -R "<lat>" $csv_input_path| sed 's/.*<lat>//g' | sed 's/[</lat>]//g' > lat.csv
grep -R "<lon>" $csv_input_path | sed 's/.*<lon>//g' | sed 's/[</lon>]//g' > lon.csv
grep -R "<minSeaLevelPres>" $csv_input_path | sed 's/.*<minSeaLevelPres>//g' | sed 's/[</minSeaLevel
grep -R "<intensity>" $csv_input_path | sed 's/.*<intensity>//g' | sed 's/[</intensity>]//g' > inten
lat="$(sed "s/$/ N/" lat.csv)"
lon="$(sed "s/$/ W/" lon.csv)"
minSeaLevelPres="$(sed "s/$/ mb/" minSeaLevelPres.csv)"
maxIntensity="$(sed "s/$/ knots/" intensity.csv)"
paste -d',' <(echo "$dtg") <(echo "$lat") <(echo "$lon") <(echo "$minSeaLevelPres") <(echo "$maxInte
rm lat.csv
rm lon.csv
rm minSeaLevelPres.csv
rm intensity.csv
```

3 Storm Plots

4 Git usage