Lab Report 1

- **Group**: 5
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- **Date**: 2025-09-05

Data copied from the website

- Latitude: `-51.03`
  The current latitude for the International Space Station
- Speed: `7.65km/s`
  The current speed for the International Space Station

Code and output:

In [1]:
```
def check_hemisphere(latitude):
    # The function checks the hemisphere of the ISS based on the given latitude
    if latitude > 0:
        print("Hello from the Northern Hemisphere!")
    else:
        print("Hello from the Southern Hemisphere!")

def get_relativity(speed):
    # The function prints the ISS's speed divided by the speed of light
    print("The ratio of the ISS speed to the speed of light is", speed/299792.458,".")

countdown = 5
while countdown > 0:    # The loop checks the hemisphere and relativity 5 times before ending
    check_hemisphere(-51.03)
    get_relativity(7.65)
    countdown -= 1
print("End")
```

```
Hello from the Southern Hemisphere!
The ratio of the ISS speed to the speed of light is 2.5517653282658634e-05 .
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Hello from the Southern Hemisphere!
The ratio of the ISS speed to the speed of light is 2.5517653282658634e-05 .
End
```

Reflection:

- What I learned from about python from this task
  - I learned that python (in contrast to many other languages like c++, java, etc.) does not require explicit type definition, and automatically determines function return types
  - I learned that in python, the convention is to write code in this order:
    - Libraries/imports
    - Functions
    - Main code
- What part was the easiest?
  - The easiest part was getting the basic logic done for exercise (i.e. thinking about how to work through this program in pseudocode)
- What part was the hardest?
  - The hardest part was working with whitespace instead of braces for logic flow
- If you had more time, what's one improvement you'd add?
  - I'd use the API to fetch the satellite details at runtime instead of having to copy paste in that data manually