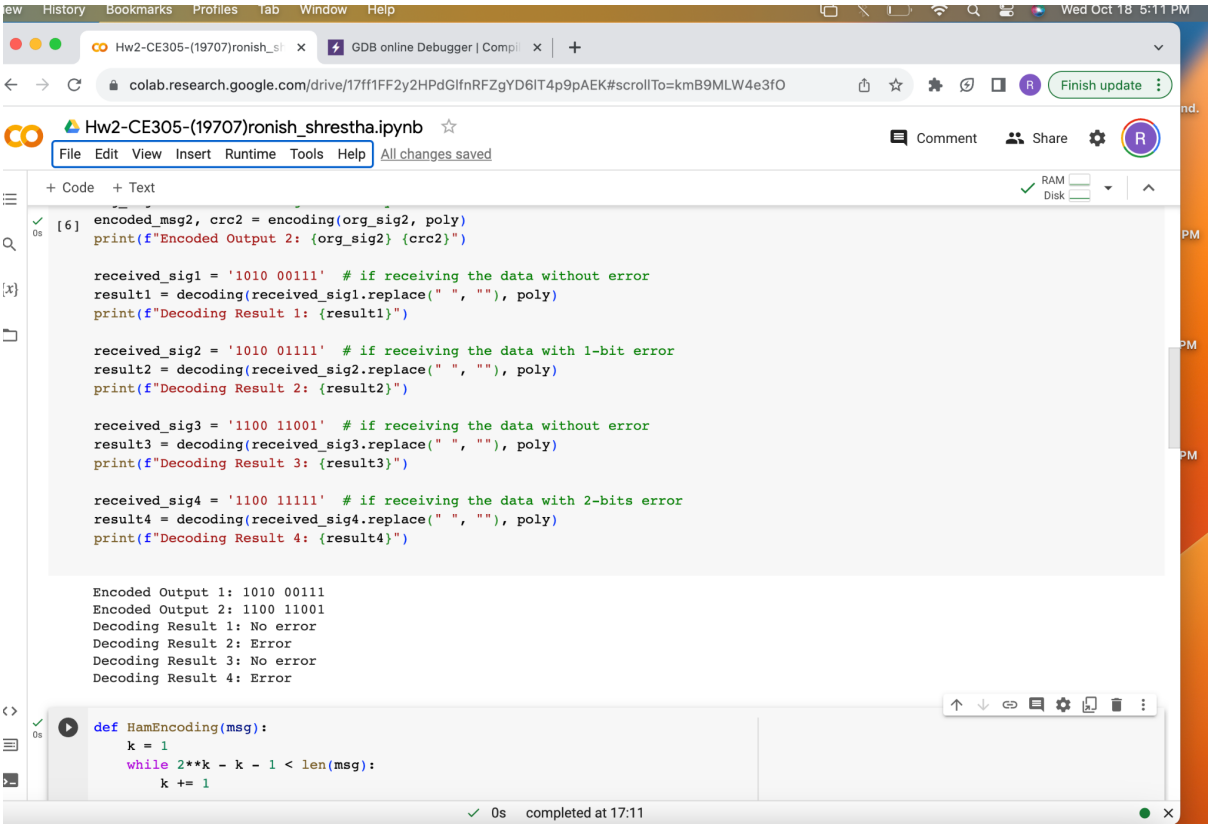
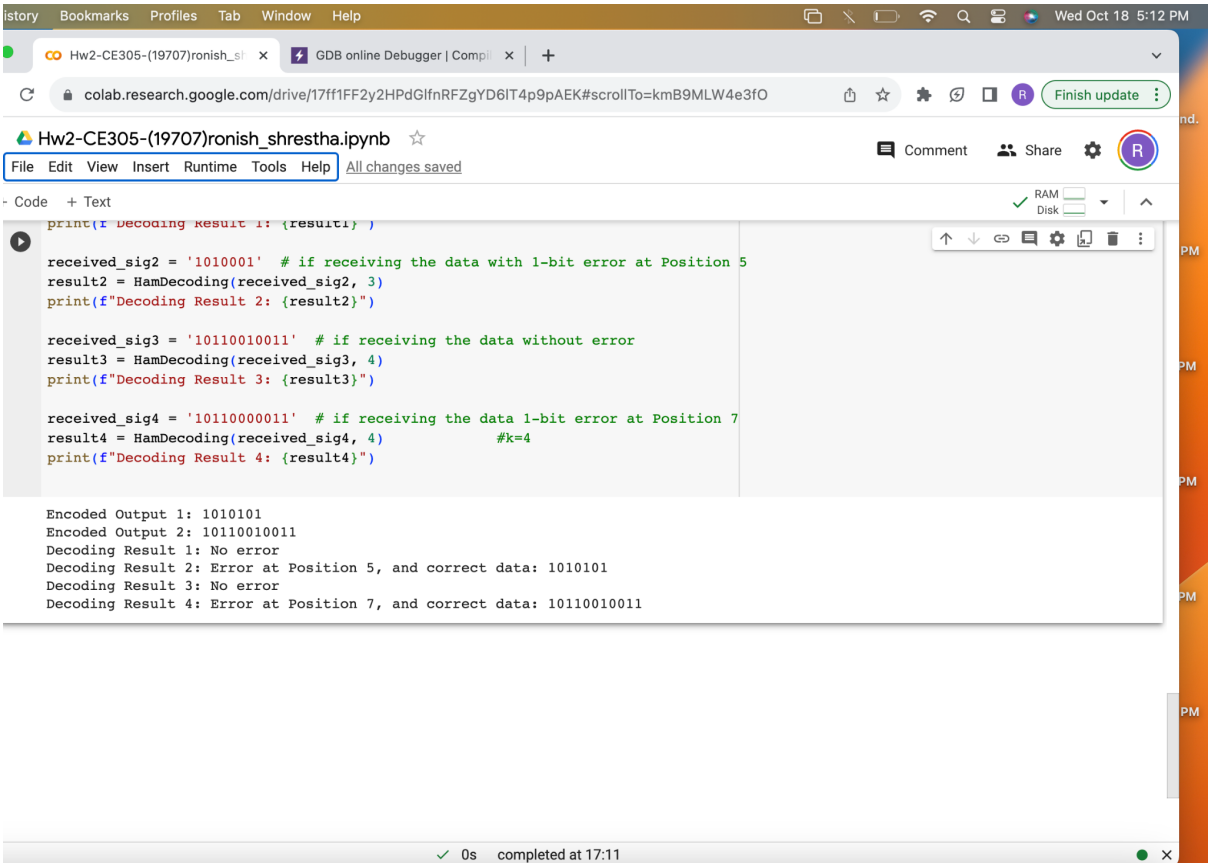
Ronish Shrestha (19707)
CE305-hw2



```
[6] encoded_msg2, crc2 = encoding(org_sig2, poly)
    print(f"Encoded Output 2: {org_sig2} {crc2}")

    received_sig1 = '1010 00111'  # if receiving the data without error
    result1 = decoding(received_sig1.replace(" ", ""), poly)
    print(f"Decoding Result 1: {result1}")

    received_sig2 = '1010 01111'  # if receiving the data with 1-bit error
    result2 = decoding(received_sig2.replace(" ", ""), poly)
    print(f"Decoding Result 2: {result2}")

    received_sig3 = '1100 11001'  # if receiving the data without error
    result3 = decoding(received_sig3.replace(" ", ""), poly)
    print(f"Decoding Result 3: {result3}")

    received_sig4 = '1100 11111'  # if receiving the data with 2-bits error
    result4 = decoding(received_sig4.replace(" ", ""), poly)
    print(f"Decoding Result 4: {result4}")
```

```
Encoded Output 1: 1010 00111
Encoded Output 2: 1100 11001
Decoding Result 1: No error
Decoding Result 2: Error
Decoding Result 3: No error
Decoding Result 4: Error
```

```
def HamEncoding(msg):
    k = 1
    while 2**k - k - 1 < len(msg):
        k += 1
```


istory Bookmarks Profiles Tab Window Help
Wed Oct 18 5:12 PM
Hw2-CE305-(19707)ronish_sh
GDB online Debugger | Compi
colab.research.google.com/drive/17ff1FF2y2HPdGlfnRFZgYD6lT4p9pAEK#scrollTo=kmB9MLW4e3fO
Finish update
Hw2-CE305-(19707)ronish_shrestha.ipynb
File Edit View Insert Runtime Tools Help All changes saved
Comment
Share
Code + Text
RAM
Disk
print(f"Decoding Result 1: {result1}")
received_sig2 = '1010001' # if receiving the data with 1-bit error at Position 5
result2 = HamDecoding(received_sig2, 3)
print(f"Decoding Result 2: {result2}")
received_sig3 = '10110010011' # if receiving the data without error
result3 = HamDecoding(received_sig3, 4)
print(f"Decoding Result 3: {result3}")
received_sig4 = '10110000011' # if receiving the data 1-bit error at Position 7
result4 = HamDecoding(received_sig4, 4) #k=4
print(f"Decoding Result 4: {result4}")
Encoded Output 1: 1010101
Encoded Output 2: 10110010011
Decoding Result 1: No error
Decoding Result 2: Error at Position 5, and correct data: 1010101
Decoding Result 3: No error
Decoding Result 4: Error at Position 7, and correct data: 10110010011
0s completed at 17:11