CSCI-111 Programming and Algorithms I

Cryptography Project

Charge to the account of_____ $_____

CLASS OF SERVICE DESIRED	
DOMESTIC	CABLE
TELEGRAM	ORDINARY
DAY LETTER	URGENT RATE
SERIAL	DEFERRED
NIGHT 'GRAM	NIGHT LETTER
IAL SERVICE	SHIP RADIOGRAM

Patrons should check class of service desired; otherwise the message will be transmitted as a telegram or ordinary cablegram.

WESTERN UNION

1206

A. N. WILLIAMS
PRESIDENT

NEWCOMB CARLTON
CHAIRMAN OF THE BOARD

J. C. WILLEVER
FIRST VICE-PRESIDENT

CHECK

ACCOUNTING INFORMATION

TIME FILED

Send the following telegram, subject to the terms on back hereof, which are hereby agreed to

WANT A REPLY?
"Answer by WESTERN UNION"
or similar phrases may be
included without charge.

```
5  5
4  6
2  3
3  7
4  6
2  6
4  9
```

```
266705 431825 427985 155345 451025 128465
397265 431825 443345 401105 393425 451025 128465
451025 431825 128465
389585 443345 408785 427985 416465 128465
470225 431825 454865 443345 128465
308945 458705 378065 420305 451025 408785 427985 393425 182225
```
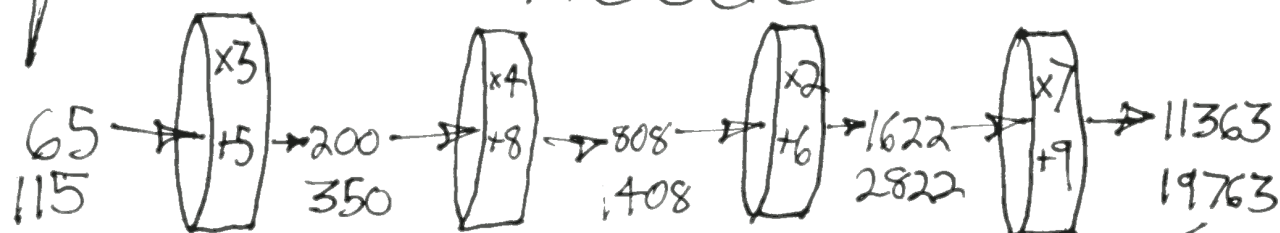
A secret message

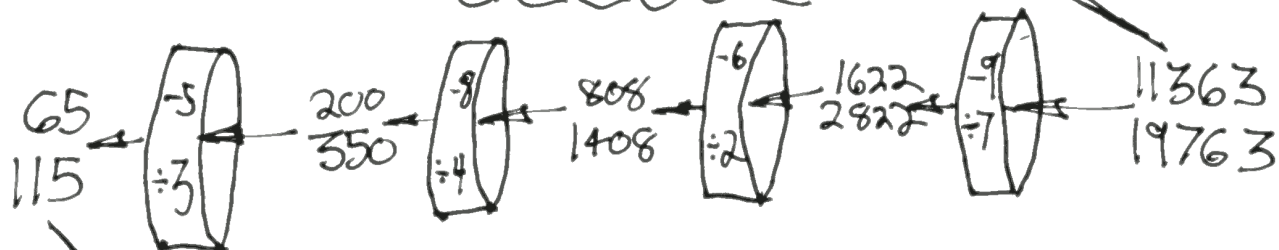65 115

crypto-rotors

3 5
4 8
2 6
7 9

encode

65
115
→ ×3 +5 → 200 350 → ×4 +8 → 808 1408 → ×2 +6 → 1622 2822 → ×7 +9 → 11363 19763

coded message

11363   19763

decode

65
115
← -5 ÷3 ← 200 350 ← -8 ÷4 ← 808 1408 ← -6 ÷2 ← 1622 2822 ← -9 ÷7 ← 11363 19763

65 115

A s ....

Museum of Anacronistic Computation
Phineas Farington, Director

Kathy. Have you had a look at the latest acquisition? On Tuesday an anonymous donor brought by a small box of items. After some research we determined that the original owner of the items was a spy who was active during the late 1940's during the early days of the Cold War.

Among the most intriguing of the items is a coded telegram and an encryption machine that uses cryptographic rotors placed alongside each other to encrypt and decrypt messages. The machine is broken beyond repair but our consultant produced a drawing of how it would have worked.

We're in the process of salvaging what we can from the device to display in our ever-growing "Al B. Frank Memorial Cryptographic Machines With Rotors Throughout History" wing of the museum. I would like you to create a computer simulation of the device that runs alongside the device itself. Our consultant is available to answer your questions.

Thanks Kathy!
-Phin