

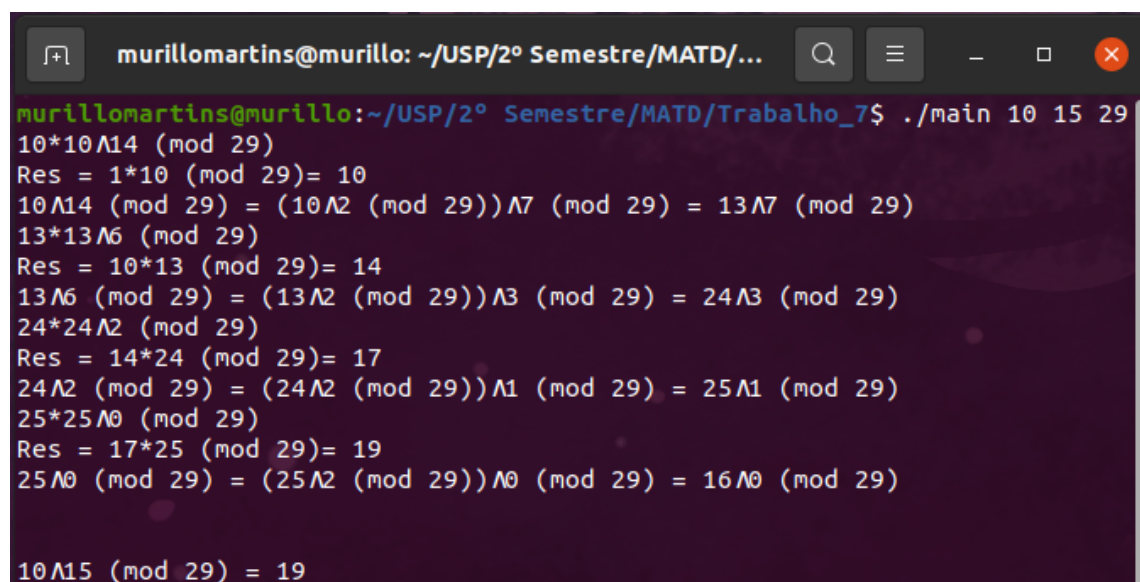
Matemática Discreta - Trabalho 7

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1 Primeiro output

Abaixo está a imagem do output de `./main 10 15 29`:



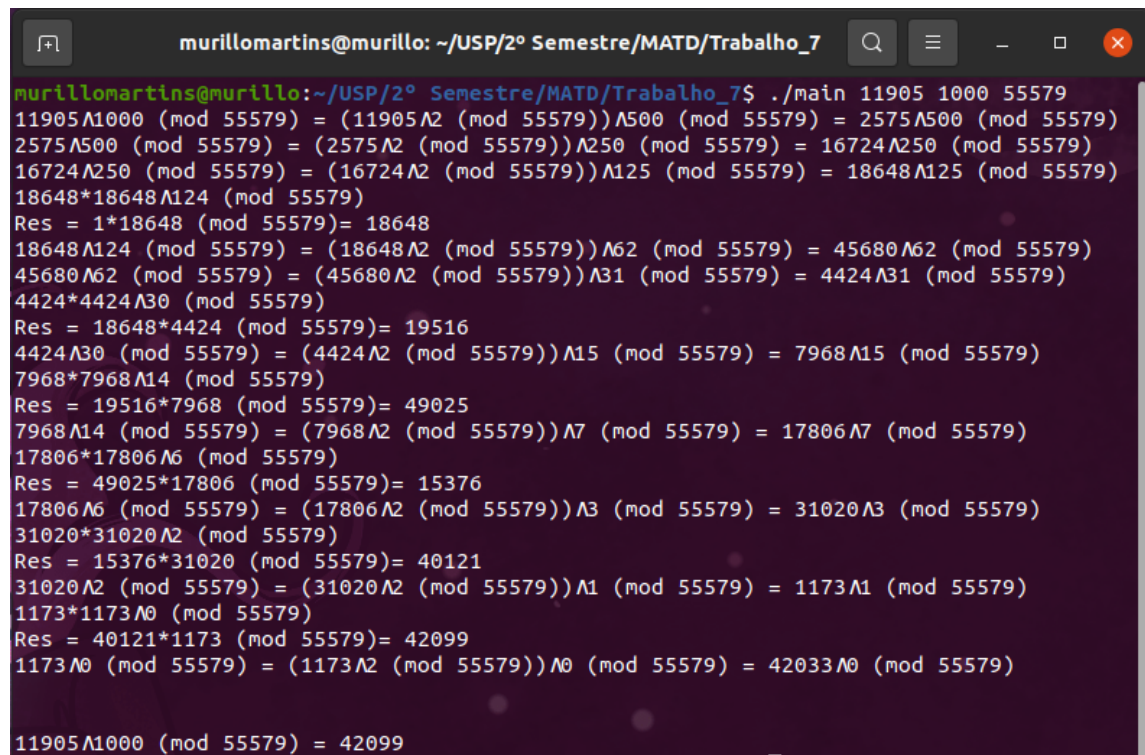
```
murillomartins@murillo: ~/USP/2º Semestre/MATD/Trabalho_7$ ./main 10 15 29
10*10^14 (mod 29)
Res = 1*10 (mod 29)= 10
10^14 (mod 29) = (10^2 (mod 29))^7 (mod 29) = 13^7 (mod 29)
13*13^6 (mod 29)
Res = 10*13 (mod 29)= 14
13^6 (mod 29) = (13^2 (mod 29))^3 (mod 29) = 24^3 (mod 29)
24*24^2 (mod 29)
Res = 14*24 (mod 29)= 17
24^2 (mod 29) = (24^2 (mod 29))^1 (mod 29) = 25^1 (mod 29)
25*25^0 (mod 29)
Res = 17*25 (mod 29)= 19
25^0 (mod 29) = (25^2 (mod 29))^0 (mod 29) = 16^0 (mod 29)

10^15 (mod 29) = 19
```

Figura 1: Resultado do programa

2 Segundo output

Abaixo está a imagem do output de `./main 11905 1000 55579`:



```
murillomartins@murillo: ~/USP/2º Semestre/MATD/Trabalho_7$ ./main 11905 1000 55579
11905^1000 (mod 55579) = (11905^2 (mod 55579))^500 (mod 55579) = 2575^500 (mod 55579)
2575^500 (mod 55579) = (2575^2 (mod 55579))^250 (mod 55579) = 16724^250 (mod 55579)
16724^250 (mod 55579) = (16724^2 (mod 55579))^125 (mod 55579) = 18648^125 (mod 55579)
18648^125 (mod 55579)
Res = 1*18648 (mod 55579)= 18648
18648^124 (mod 55579) = (18648^2 (mod 55579))^62 (mod 55579) = 45680^62 (mod 55579)
45680^62 (mod 55579) = (45680^2 (mod 55579))^31 (mod 55579) = 4424^31 (mod 55579)
4424^31 (mod 55579)
Res = 18648*4424 (mod 55579)= 19516
4424^30 (mod 55579) = (4424^2 (mod 55579))^15 (mod 55579) = 7968^15 (mod 55579)
7968^15 (mod 55579)
Res = 19516*7968 (mod 55579)= 49025
7968^14 (mod 55579) = (7968^2 (mod 55579))^7 (mod 55579) = 17806^7 (mod 55579)
17806^7 (mod 55579)
Res = 49025*17806 (mod 55579)= 15376
17806^6 (mod 55579) = (17806^2 (mod 55579))^3 (mod 55579) = 31020^3 (mod 55579)
31020^3 (mod 55579)
Res = 15376*31020 (mod 55579)= 40121
31020^2 (mod 55579) = (31020^2 (mod 55579))^1 (mod 55579) = 1173^1 (mod 55579)
1173^1 (mod 55579)
Res = 40121*1173 (mod 55579)= 42099
1173^0 (mod 55579) = (1173^2 (mod 55579))^0 (mod 55579) = 42033^0 (mod 55579)
11905^1000 (mod 55579) = 42099
```

Figura 2: Resultado do programa