

## Amortization Schedule – Packed Arithmetic

300 Points

Data Formats: In: CSU.PUBLIC.DATA(DATAPRG&PROG)

CC 1 - 9	Loan Amount (2 decimals)	7v2
CC 11 - 15	Interest Rate (5 decimals)	0v5
CC 21 - 27	Monthly Payment (2 decimals)	5v2
CC 31 - 33	Term in months (0 decimals)	3v0

Name your program: PROG6 and leave it in your Library.

Validate that all input variables are numeric (after packing.)

Read input records and print a **monthly** payment amortization schedule for each record in a similar format as the examples. **Use subroutines!**

Each output record will not exceed **80 bytes** in length!

Each monthly print line will contain the following:

Payment number – count from 1 to term (or less!)

Payment Amount – same as given except the last one!

Monthly Interest – calculated by multiplying the Interest Rate by the current Loan Balance and dividing by 12.

Principle Reduction – calculated by subtracting the Monthly Interest from the Monthly Payment.

Loan Balance – calculated by subtracting the Principle Reduction from the previous Loan Balance.

The Payment Amount, Monthly Interest, and the Principle Reduction will also have **final totals**.

The last line has special considerations. The Payment Amount will be the sum of the Monthly Interest and the previous Loan Balance.

The Principle Reduction will be the previous Loan Balance. The Loan Balance will be zero.

The schedule is ended when **either** the Term has been reached, or the Current Balance is zero. Hint: If the Loan Balance is less than a payment, the last line is printed. Also, if the Payment Number equals the Term, the last line is printed. **Selected** print lines shown following. Each loan will have **three** heading lines similar to the first loan below.

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\*\*\* CSU Amortization Schedule – Spring 2019 \*\*\*

Amount:	1,000.00	Payment:	85.61	Rate:	5.000	Term:	12
Pmt #	Payment	Interest	Loan Paid	Balance			
1	85.61	4.17	81.44	918.56			
2	85.61	3.83	81.78	836.78			
3	85.61	3.49	82.12	754.66			
11	85.61	.71	84.90	85.23			
12	85.59	.36	85.23	.00			
TOTALS	1,027.30	27.30	1,000.00				

Amount:	1,000.00	Payment:	50.00	Rate:	5.000	Term:	12
1	50.00	4.17	45.83	954.17			
2	50.00	3.98	46.02	908.15			
3	50.00	3.78	46.22	861.93			
11	50.00	2.22	47.78	485.20			
12	487.22	2.02	485.20	.00			
TOTALS	1,037.22	37.22	1,000.00				

Amount:	1,000.00	Payment:	100.00	Rate:	5.000	Term:	12
1	100.00	4.17	95.83	904.17			
2	100.00	3.77	96.23	807.94			
3	100.00	3.37	96.63	711.31			
10	100.00	.51	99.49	23.51			
11	23.61	.10	23.51	.00			
TOTALS	1,023.61	23.61	1,000.00				