

## **Program 1)**

### **Case 1)**

time of day: 0  
time duration: 0  
Time is: 0

### **Case 2)**

time of day: 200  
time duration: 100  
Time is: 300

### **Case 3)**

time of day: 200  
time duration: -100  
Time is: 100

### **Case 4)**

time of day: 200  
time duration: 2420  
Time is: 220

### **Case 5)**

time of day: 200  
time duration: -2420  
Time is: 140

### **Case 6)**

time of day: 200  
time duration: -300  
Time is: 2300

### **Case 7)**

time of day: 100  
time duration: -2315  
Time: 145

## Program 2)

### Case 1)

Enter amount of loan:

1000

Enter yearly interest rate (as a decimal number):

.12

Enter monthly payment:

100

Enter number of monthly payments:

25

Your remaining balance on the loan after 1 months is: 910.00

Your remaining balance on the loan after 2 months is: 819.10

Your remaining balance on the loan after 3 months is: 727.29

Your remaining balance on the loan after 4 months is: 634.56

Your remaining balance on the loan after 5 months is: 540.91

Your remaining balance on the loan after 6 months is: 446.32

Your remaining balance on the loan after 7 months is: 350.78

Your remaining balance on the loan after 8 months is: 254.29

Your remaining balance on the loan after 9 months is: 156.83

Your remaining balance on the loan after 10 months is: 58.40

Your remaining balance on the loan after 11 months is: 0.00

Your balance remaining is 0 and your last payment was 58.40 in the 11 month

### Case 2)

Enter amount of loan:

1000

Enter yearly interest rate (as a decimal number):

.12

Enter monthly payment:

800

Enter number of monthly payments:

5

Your remaining balance on the loan after 1 months is: 210.00

Your remaining balance on the loan after 2 months is: 0.00

Your balance remaining is 0 and your last payment was 210.00 in the 2 month

### Case 3)

Enter amount of loan:

100000

Enter yearly interest rate (as a decimal number):

.10

Enter monthly payment:

10000

Enter number of monthly payments:

10

Your remaining balance on the loan after 1 months is: 90833.34

Your remaining balance on the loan after 2 months is: 81590.28

Your remaining balance on the loan after 3 months is: 72270.20

Your remaining balance on the loan after 4 months is: 62872.45

Your remaining balance on the loan after 5 months is: 53396.39

Your remaining balance on the loan after 6 months is: 43841.36

Your remaining balance on the loan after 7 months is: 34206.70

Your remaining balance on the loan after 8 months is: 24491.76

Your remaining balance on the loan after 9 months is: 14695.86

Your remaining balance on the loan after 10 months is: 4818.32

**Case 4)**

Enter amount of loan:

100000

Enter yearly interest rate (as a decimal number):

.10

Enter monthly payment:

15000

Enter number of monthly payments:

10

Your remaining balance on the loan after 1 months is: 85833.34

Your remaining balance on the loan after 2 months is: 71548.61

Your remaining balance on the loan after 3 months is: 57144.85

Your remaining balance on the loan after 4 months is: 42621.05

Your remaining balance on the loan after 5 months is: 27976.23

Your remaining balance on the loan after 6 months is: 13209.37

Your remaining balance on the loan after 7 months is: 0.00

Your balance remaining is 0 and your last payment was 13209.37 in the 7 month

**Case 5)**

Enter amount of loan:

100000

Enter yearly interest rate (as a decimal number):

.10

Enter monthly payment:

750

Enter number of monthly payments:

10

Your remaining balance on the loan after 1 months is: 100083.34

Your remaining balance on the loan after 2 months is: 100167.37

Your remaining balance on the loan after 3 months is: 100252.09

Your remaining balance on the loan after 4 months is: 100337.53

Your remaining balance on the loan after 5 months is: 100423.68

Your remaining balance on the loan after 6 months is: 100510.55

Your remaining balance on the loan after 7 months is: 100598.13

Your remaining balance on the loan after 8 months is: 100686.45

Your remaining balance on the loan after 9 months is: 100775.51

Your remaining balance on the loan after 10 months is: 100865.30

### Program 3)

Enter a floating-point number:

.01

Value of e is 2.716666936874390 after 6 terms

Enter a floating-point number:

.001

Value of e is 2.718254089355469 after 8 terms

Enter a floating-point number:

.0001

Value of e is 2.718278884887695 after 9 terms

Enter a floating-point number:

0.00001

Value of e is 2.718281745910645 after 10 terms

Enter a floating-point number:

0.000001

Value of e is 2.718281984329224 after 11 terms

Enter a floating-point number:

0.0000001

Value of e is 2.718281984329224 after 12 terms

Enter a floating-point number:

0.00000001

Value of e is 2.718281984329224 after 13 terms

Enter a floating-point number:

0.000000001

Value of e is 2.718281984329224 after 14 terms

Enter a floating-point number:

0.0000000001

Value of e is 2.718281984329224 after 15 terms

Enter a floating-point number:

0.00000000001

Value of e is 2.718281984329224 after 16 terms