HW4

Hyunki Lee

1)loanCalc.c

```
All:~
                                                                                                                                        >
double interestPay,principalPay;
printf("Enter amount
scanf("%lf", &loan);
scan( %11 , %10an);
printf("Enter Interest rate per year :
scanf("%1f", &rate);
printf("Enter number of payments : ");
scanf("%d", &num);
r = rate/(12*100);
A = loan*(r/(1 - pow((1 + r), -num)));
number("\u00e4mantle number should be $%.
printf("\nMontly payment should be $%.21f\n",A);
printf(
printf("#\tPayment\t\tPrincipal\tInterest\tBalance\n");
printf("%d\t$%.21f\t\t",i,A);
interestPay = loan * r;
principalPay = A - interestPay;
B = loan - principalPay;
printf("$%.21f\t\t$%.21f\t\t$%.21f\n",principalPay,interestPay,B);
loan = B;
 return 0;
"loanCalc.c" 34L, 794C
                                                                                                                     32,0-1
```

```
[hlee152@gsuad.gsu.edu@snowball ~]$ ./loanCalc
Enter amount of loan: $ 2000
Enter Interest rate per year : % 7.5
Enter number of payments: 6
Montly payment should be $340.66
      Payment
               Principal
                                Interest
                                            Balance
      $340.66
                  $328.16
                                 $12.50
                                              $1671.84
      $340.66
                                 $10.45
                                              $1341.62
      $340.66
                   $332.28
                                 $8.39
                                              $674.99
      $340.66
                                 $6.31
                   $336.44
                                 $4.22
      $340.66
                                              $0.00
                   $338.55
                                 $2.12
      $340.66
[hlee152@gsuad.gsu.edu@snowball ~]$
```

2) loanCalcArr.c

```
A hlee 152@gsuad.gsu.edu@snowball:~
                                                                                   \times
#include<stdio.h>
#include<stdlib.h>
#include<math.h>
int main(){
double loan, rate;
int num, i;
double A,r,b;
double INT[1000],B[1000],P[1000];
scanf("%lf",&loan);
printf("
scanf("%lf",&rate);
printf("I
scanf("%d",&num);
r = rate/1200;
A = loan*((r*pow(1+r,num))/(pow(1+r,num)-1));
B[0] = loan;
printf("\nMontly payment should be %.21f\n", A);
printf("
);
printf("# \t Payment \t Principal \t Interest \t Balance\n");
for( i=1; i<=num; i++) {</pre>
INT[i] = B[i-1]*r;
P[i] = A-INT[i];
B[i] = B[i-1]-P[i];
printf("%d \t $%.2lf \t $%.2lf \t $%.2lf ",i,A,P[i],INT[i]);
if(INT[i]/10.0<1.0)
printf("\t\t $%.2lf",B[i]);
printf("\t $%.21f",B[i]);
printf("\n");
return 0;
"loanCalcArr.c" 42L, 846C
                                                                       31,1
                                                                                       A11
```

```
[hlee152@gsuad.gsu.edu@snowball ~]$ ./loanCalcArr
Enter amount of loan : $ 2000
Enter interest rate per year: % 7.5
Enter number of payments : 6
Montly payment should be 340.66
 Principal
$328.16
         Payment
         $340.66
                                           $12.50
                                                            $1671.84
         $340.66
                         $330.21
                                           $10.45
                                                            $1341.62
         $340.66
                                           $8.39
                                                            $1009.35
         $340.66
                          $334.35
                                           $6.31
                                                            $674.99
         $340.66
                                           $4.22
         $340.66
                                                             $0.00
[hlee152@gsuad.gsu.edu@snowball ~]$
```

3)loanCalcPtr.c

```
A hlee 152@gsuad.gsu.edu@snowball:~
                                                                             \times
int main(){
double loan, rate;
int num, i;
double A,r,b;
double INT[1000],B[1000],P[1000];
printf("Enter
scanf("%lf",&loan);
printf("
scanf("%lf",&rate);
printf("]
                     of payments : ");
scanf("%d",&num);
r = rate/1200;
A = loan*((r*pow(1+r,num))/(pow(1+r,num)-1));
*(B) = loan;
printf("\nMontly payment should be %.21f\n",A);
printf('
);
printf("# \t Payment \t Principal \t Interest \t Balance\n");
for( i=1; i<=num; i++) {</pre>
*(INT+i) = *(B+i-1)*r;
*(P+i) = A-*(INT+i);
*(B+i) = *(B+i-1)-*(P+i);
printf("%d \t $%.21f \t $%.21f \t $%.21f ",i,A,P[i],INT[i]);
if(INT[i]/10.0<1.0)
printf("\t\t $%.2lf",B[i]);
else
printf("\t $%.21f",B[i]);
printf("\n");
return 0;
"loanCalcPtr.c" 43L, 861C
```

```
[hlee152@gsuad.gsu.edu@snowball ~]$ ./loanCalcPtr
Enter amount of loan: $ 2000
Enter interest rate per year: % 7.5
Enter number of payments: 6
Montly payment should be 340.66
Principal Interest
$328.16 $12.50
       Payment
                                                Balance
       $340.66
                                                $1671.84
       $340.66
                    $330.21
                                  $10.45
                                                $1341.62
                                  $8.39
                                                $1009.35
                    $332.28
                                                $674.99
                    $334.35
                                  $6.31
       $340.66
                                   $4.22
                                                $338.55
       $340.66
                     $336.44
                                                $0.00
       $340.66
                     $338.55
                                   $2.12
[hlee152@gsuad.gsu.edu@snowball ~]$
```

4)loanCalcStruct.c

```
A hlee 152@gsuad.gsu.edu@snowball:~
                                                                                    \times
                                                                              double INT, B, P;
int main(){
double loan, rate;
int num, i;
double A,r,b;
printf("Enter amount of loan : $ ");
scanf("%lf",&loan);
printf("
scanf("%lf",&rate);
printf("
scanf("%d",&num);
r = rate/1200;
A = loan*((r*pow(1+r,num))/(pow(1+r,num)-1));
cost[0].B = loan;
printf("\nMontly payment should be %.21f\n",A);
printf('
);
printf("# \t Payment \t Principal \t Interest \t Balance\n");
for( i=1; i<=num; i++) {</pre>
cost[i].INT =cost[i-1].B*r;
cost[i].P = A-cost[i].INT;
cost[i].B = cost[i-1].B - cost[i].P;
printf("%d \t $%.21f \t $%.21f \t $%.21f ",i,A,cost[i].P,cost[i].INT);
if(cost[i].INT/10.0<1.0)
printf("\t\t $%.21f",cost[i].B);</pre>
printf("\t $%.21f",cost[i].B);
printf("\n");
return 0;
"loanCalcStruct.c" 47L, 919C
                                                                   34,1
                                                                                  All
```

```
[hlee152@gsuad.gsu.edu@snowball ~]$ ./loanCalcStruct
Enter amount of loan: $ 2000
Enter interest rate per year: % 7.5
Enter number of payments: 6
Montly payment should be 340.66
          Payment
                     Principal
       $340.66
                                   $12.50
       $340.66
                     $330.21
                                   $10.45
                                                 $1341.62
                     $332.28
                                   $8.39
                                                 $1009.35
       $340.66
                     $334.35
                                   $6.31
                                                 $674.99
       $340.66
       $340.66
                     $336.44
                                   $4.22
                                                 $338.55
                                                 $0.00
       $340.66
                     $338.55
                                   $2.12
```