```
% AsianMC.m
function [P,CI] =
AsianMC(S0,X,r,T,sigma,NSamples,NRepl)
Payoff = zeros(NRepl,1);
for i=1:NRepl
   Path=AssetPaths1(S0,r,sigma,T,NSamples,1);
   Payoff(i) = max(0, mean(X - Path(2:(NSamples+1))));
end
[P,aux,CI] = normfit( exp(-r*T) * Payoff);
```

```
% AsianMCCV.m
function [P,CI] =
AsianMCCV(S0,X,r,T,sigma,NSamples,NRepl,NPilot)

% pilot replications to set control parameter
TryPath=AssetPaths1(S0,r,sigma,T,NSamples,NPilot);
StockSum = sum(TryPath,2);
PP = mean(TryPath(:,2:(NSamples+1)) , 2);
TryPayoff = exp(-r*T) * max(0, X - PP);
MatCov = cov(StockSum, TryPayoff);
c = - MatCov(1,2) / var(StockSum);
dt = T / NSamples;
ExpSum = S0 * (1 - exp((NSamples + 1)*r*dt)) / (1 -
exp(r*dt));

% MC run
ControlVars = zeros(NRepl,1);
for i=1:NRepl
   StockPath = AssetPaths1(S0,r,sigma,T,NSamples,1);
   Payoff = exp(-r*T) * max(0,
mean(StockPath(2:(NSamples+1))-X));
   ControlVars(i) = Payoff + c * (sum(StockPath) -
ExpSum);
end
[P,aux,CI] = normfit(ControlVars);
```

```
>> CompAsianMCCV

PMC =

    2.7466


CIMC =

    2.7116
    2.7817


ans =

    0.0700


PMCCV =

    4.0163


CIMCCV =

    3.9333
    4.0992


ans =

    0.1659

>>
```

```
%LookbackHalton.m
function[P,CI] =
LookbackHalton(S0,r,T,sigma,NSteps,NRepl)
Payoff = zeros(NRepl,1);
Path = HaltonPaths(S0,r,sigma,T,NSteps,NRepl);
SMax = max(Path,[],2)
%SMin = min(Path,[],2);
Payoff = max(0,SMax-Path(NSteps+1));
%Payoff = max(0,Path(NSteps+1)-SMin);
[P,aux,CI] = normfit(exp(-r*T)*Payoff);


%LookbackMC.m
function[P,CI] = LookbackMC(S0,r,T,sigma,NSteps,NRepl)
Payoff = zeros(NRepl,1);
for i = 1:NRepl
    Path = AssetPaths1(S0,r,sigma,T,NSteps,1);
    SMax = max(Path);
    %SMin = min(Path);
    Payoff(i) = max(0,SMax-Path(NSteps+1));
    %Payoff(i) = max(0,Path(NSteps+1)-SMin);
end
[P,aux,CI] = normfit(exp(-r*T)*Payoff);
end
```

```
>> CompLookbackMCHalton

PMC =

   14.1208


PHalton =

   6.8937e+10
```