Earned Value Analysis

Code:

```
#include <iostream>

using namespace std;

int main() {


     double BCWS, BCWP, SV, ACWP, CV, BAC, EAC, VAC, SPI, CPI;


     cout<<"Enter the cost you BUDGETED for the work you
SCHEDULED to have done: $ ";
     cin>>BCWS;

     cout<<"Enter the cost you BUDGETED for the work you ACTUALLY
performed: $ ";
     cin>>BCWP;

          SV = BCWP - BCWS;

     cout<<endl<<"Schedule Variance = $ "<<SV<<endl;

          if(SV < 0)
               cout<<"You are BEHIND Schedule"<<endl;
          else if(SV > 0)
               cout<<"You are AHEAD of Schedule"<<endl;
          else
               cout<<"You are ON Schedule"<<endl;

     cout<<"Schedule Variance in % = "<< (SV / BCWS) * 100
<<endl<<endl;
```

```
     cout<<"Enter the BUDGETED Cost for the work you ACTUALLY
Performed: $ ";
     cin>>BCWP;

     cout<<"Enter the ACTUAL Cost for the work you ACTUALLY
Performed: $ ";
     cin>>ACWP;

          CV = BCWP - ACWP;

     cout<<endl<<"Cost Variance = $ "<<CV<<endl;

          if(CV < 0)
               cout<<"The cost for your ACTUALLY Performed Work
has OVERRUN"<<endl;
          else if(CV > 0)
               cout<<"The cost for your ACTUALLY Performed Work
has UNDERRUN"<<endl;
          else
               cout<<"The cost for your ACTUALLY Performed Work
is EQUAL to your BUDGETED Cost of your actually performed
work"<<endl;

     cout<<"Cost Variance in % = "<< (CV / BCWP) * 100
<<endl<<endl;


               cout<<"************************"<<endl<<endl;


     cout<<"Enter the cost for the Total job SUPOSSED to cost: $
";
     cin>>BAC;

     cout<<"Enter the cost for the Total job EXPECTED to cost: $
";
     cin>>EAC;

          VAC = BAC - EAC;

     cout<<endl<<"Variance at Completion = $ "<<VAC<<endl;
```

```
         if(VAC < 0)
              cout<<"The EXPECTED Cost for your Total job has
OVERRUN"<<endl;
         else if(VAC > 0)
              cout<<"The EXPECTED Cost for your Total job has
UNDERRUN"<<endl;
         else
              cout<<"The EXPECTED Cost for your Total job is
EQUAL to your SUPOSSED Cost for your Total job"<<endl;



     cout<<endl<<"************************"<<endl<<endl;


                  cout<<"------------ TREND ANALYSIS
------------"<<endl<<endl;


     cout<<"Schedule Performance Index (SPI) for measure of
Schedule efficiency with which work has been
accomplished"<<endl;
     cout<<"In other words, the rate at which work is being
accomplished"<<endl;
         cout<<"SPI = "<< BCWP / BCWS <<endl;

              if(SPI < 1)
                   cout<<"BEHIND Schedule"<<endl;
              else if(SPI > 1)
                   cout<<"AHEAD of Schedule"<<endl;
              else
                   cout<<"ON Schedule depending on how better SPI
is closer to '1'"<<endl;


     cout<<endl<<"Cost Performance Index (CPI) for measure of
Cost efficiency for work performed to date"<<endl;
     cout<<"In other words, the value of work accomplished for
each dollar spent"<<endl;
         cout<<"CPI = "<< BCWP / ACWP <<endl;
```

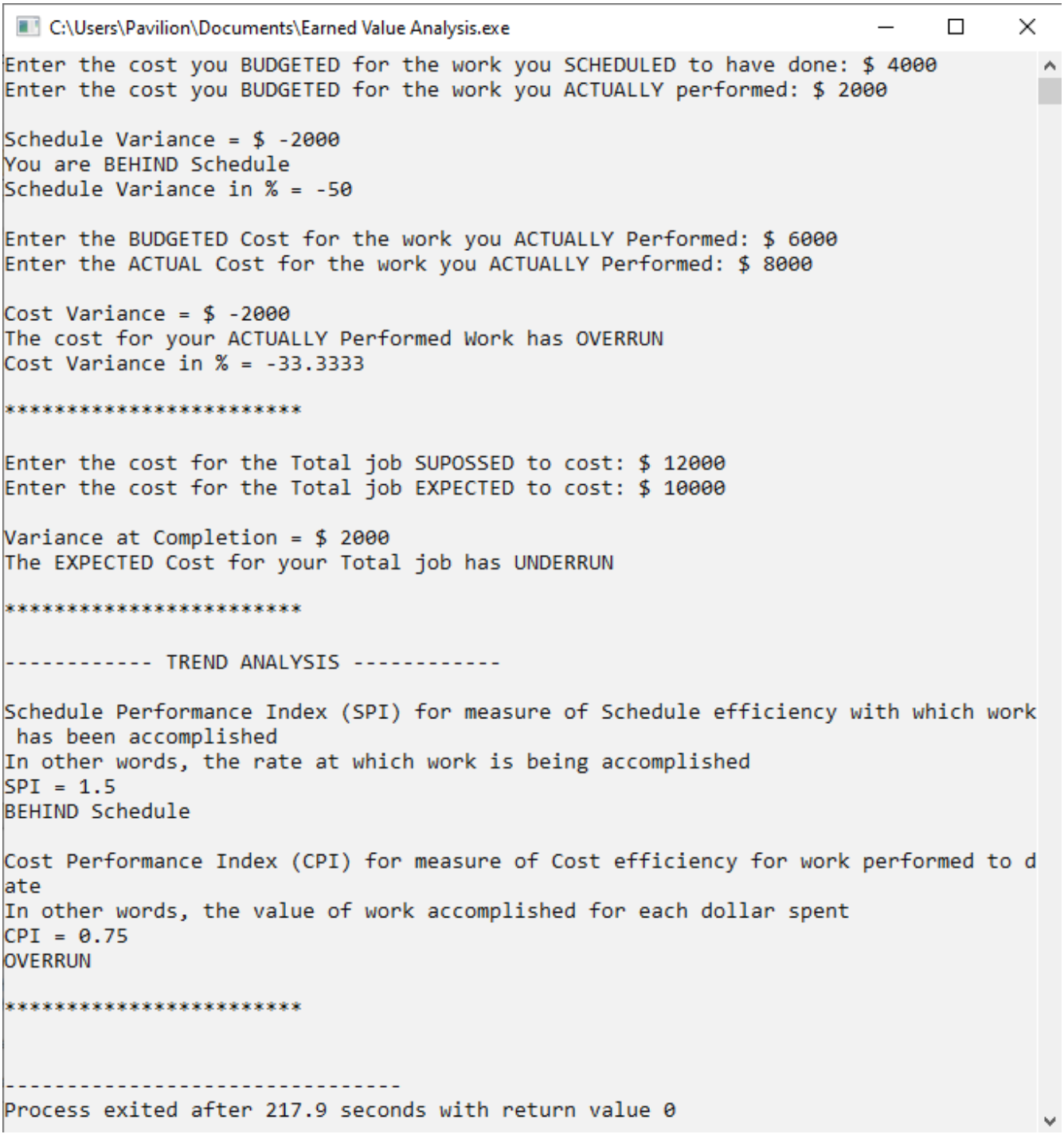
```
                if(CPI < 1)
                     cout<<"OVERRUN"<<endl;
                else if(CPI > 1)
                     cout<<"UNDERRUN"<<endl;
                else
                     cout<<"EQUAL depending on how better CPI is
closer to '1'"<<endl;



     cout<<endl<<"************************"<<endl<<endl;


     return 0;
}
```

Output:


C:\Users\Pavilion\Documents\Earned Value Analysis.exe
Enter the cost you BUDGETED for the work you SCHEDULED to have done: $ 4000
Enter the cost you BUDGETED for the work you ACTUALLY performed: $ 2000
Schedule Variance = $ -2000
You are BEHIND Schedule
Schedule Variance in % = -50
Enter the BUDGETED Cost for the work you ACTUALLY Performed: $ 6000
Enter the ACTUAL Cost for the work you ACTUALLY Performed: $ 8000
Cost Variance = $ -2000
The cost for your ACTUALLY Performed Work has OVERRUN
Cost Variance in % = -33.3333
****
Enter the cost for the Total job SUPOSSED to cost: $ 12000
Enter the cost for the Total job EXPECTED to cost: $ 10000
Variance at Completion = $ 2000
The EXPECTED Cost for your Total job has UNDERRUN
****
---------- TREND ANALYSIS ----------
Schedule Performance Index (SPI) for measure of Schedule efficiency with which work
has been accomplished
In other words, the rate at which work is being accomplished
SPI = 1.5
BEHIND Schedule
Cost Performance Index (CPI) for measure of Cost efficiency for work performed to d
ate
In other words, the value of work accomplished for each dollar spent
CPI = 0.75
OVERRUN
****

Process exited after 217.9 seconds with return value 0