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```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% ENGR 132
% Program Description
%this program can call the PS06_cableUDF function function as many
%  times as necessary to get results that can be used to display the
%  following information to the Command Window
%
% Assignment Information
%   Assignment:      PS 06, Problem 3
%   Team ID:        002-08
%   Team Member:    Yi Zhou, zhou823@purdue.edu
%   Team Member:    Ian Pitman, ipitman@purdue.edu
%   Team Member:    Eu Jin Lee, lee2219@purdue.edu
%   Team Member:    Tomoki Koike, koike@purdue.edu
%   Contributor:    Name, login@purdue [repeat for each]
%   My contributor(s) helped me:
%       [ ] understand the assignment expectations without
%           telling me how they will approach it.
%       [ ] understand different ways to think about a solution
%           without helping me plan my solution.
%       [ ] think through the meaning of a specific error or
%           bug present in my code without looking at my code.
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

INITIALIZATION

```
east_bridge_heights = [50, 54, 58, 62, 66, 70]'; % vector of east
bridge heights
east_bridge_distance = [30, 58, 84, 108, 130, 150]'; % vector of east
bridge distance

west_bridge_heights = [50, 54, 58, 62, 66, 70]'; % vector of west
bridge heights
west_bridge_distance = [18, 34, 48, 60, 70, 78]'; %vector of west
bridge distance
```

```
num_strand = [45, 45, 45, 45, 45, 36]'; %number of strand for each
cable
```

CALCULATIONS

```
%run user defined function by using east bridge data
[cable_length,cable_weight,total_cost] =
    PS06_cableUDF_002_08(east_bridge_heights,east_bridge_distance,
    num_strand);
%multiple by 2 becasue there are north and south part of bridege and
they
%are identical.
east_cableweight = cable_weight * 2;
east_cablelength = cable_length * 2;
east_cost = total_cost * 2;
%run user defined function by using west bridge data
[cable_length,cable_weight,total_cost] =
    PS06_cableUDF_002_08(west_bridge_heights,west_bridge_distance,
    num_strand);
west_cableweight = cable_weight * 2;
west_cablelength = cable_length * 2;
west_cost = total_cost * 2;

combined24length = east_cablelength + west_cablelength;
total24cost = east_cost + west_cost;
```

FORMATTED TEXT & FIGURE DISPLAYS

```
fprintf("Total weight of all 12 cables on the east side of the bridge
is %.3f kg\n",east_cableweight )
fprintf("Total weight of all 12 cables on the west side of the bridge
is %.3f kg\n",west_cableweight )
fprintf("Combined length of all 24 cables is %.3f meter
\n",combined24length)
fprintf("the total estimated cost for all 24 cables is %.3f dollars
\n",total24cost )
```

```
Total weight of all 12 cables on the east side of the bridge is
63595.960 kg
Total weight of all 12 cables on the west side of the bridge is
45398.436 kg
Combined length of all 24 cables is 2310.041 meter
the total estimated cost for all 24 cables is 2724859.881 dollars
```

ACADEMIC INTEGRITY STATEMENT

We have not used source code obtained from any other unauthorized source, either modified or unmodified. Neither have we provided access to our code to another. The script we are submitting is our own original work.

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