```matlab
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% V00975928
% Question #4

clear;
clc;

accuracyfactor = 0.1;
gamma = 0.9;

states = string(0:24);
statesWithPolicies = cell(5,5);
statevalues = zeros(1,24);

for i=1:numel(statesWithPolicies)
    if(i == 2)
        statesWithPolicies{i} = {'A', '####', 0, [0.25, 0.25, 0.25,
 0.25], 1};
    elseif(i == 4)
        statesWithPolicies{i} = {'B', '####', 0, [0.25, 0.25, 0.25,
 0.25], 1};
    elseif(i == 19)
        statesWithPolicies{i} = {'Bd', '####', 0, [0.25, 0.25, 0.25,
 0.25], 1};
    elseif(i == 22)
        statesWithPolicies{i} = {'Ad', '####', 0, [0.25, 0.25, 0.25,
 0.25], 1};
    else
        statesWithPolicies{i} = {states(i), '####', 0, [0.25, 0.25,
 0.25, 0.25], 1};
    end
end

outerloop = 1;
innerloop = 1;

policyIndex = 1;
while outerloop
    printPolicy(statesWithPolicies, policyIndex, 0)
    tempvariable = statesWithPolicies;

    valueIterIndex = 1;
    while innerloop
        delta = 0;
        tempstore = statesWithPolicies;
        for i=1:25
            lastStateValue = tempstore{i}{3};
            if(tempstore{i}{5} == 1)
                % top side
                if(any(strcmp({'A'}, statesWithPolicies{i}{1})))
                    % right
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                    tempstore{i}{3} = statesWithPolicies{i}
{4}(2) * (10 + gamma * statesWithPolicies{22}{3}) +
 statesWithPolicies{i}{4}(1) * (10 + gamma * statesWithPolicies{22}
{3})+statesWithPolicies{i}{4}(3) * (10 + gamma *
 statesWithPolicies{22}{3})+statesWithPolicies{i}{4}(4) * (10 + gamma
 * statesWithPolicies{22}{3});
                elseif(any(strcmp({'B'}, statesWithPolicies{i}{1})))
                    % right
                    tempstore{i}{3} = statesWithPolicies{i}{4}(2) * (5
 + gamma * statesWithPolicies{19}{3})+statesWithPolicies{i}{4}(1) * (5
 + gamma * statesWithPolicies{19}{3})+statesWithPolicies{i}{4}(3) * (5
 + gamma * statesWithPolicies{19}{3}) + statesWithPolicies{i}{4}(4) *
 (5 + gamma * statesWithPolicies{19}{3});
                elseif(any(strcmp({'2'}, statesWithPolicies{i}{1})))
                    % right
                    tempstore{i}{3} = statesWithPolicies{i}{4}(2) * (0
 + gamma * statesWithPolicies{i+1}{3})+statesWithPolicies{i}{4}(1) *
 (0 + gamma * statesWithPolicies{i-1}{3})+ statesWithPolicies{i}{4}(3)
 * (-1 + gamma * statesWithPolicies{i}{3}) + statesWithPolicies{i}{4}
(4) * (0 + gamma * statesWithPolicies{i+5}{3});
                % right side
                elseif(any(strcmp({'9', '14', '19'},
 statesWithPolicies{i}{1})))
                    % right
                    tempstore{i}{3} = statesWithPolicies{i}{4}(2) *
 (-1 + gamma * statesWithPolicies{i}{3})+statesWithPolicies{i}{4}(1) *
 (0 + gamma * statesWithPolicies{i-1}{3})+statesWithPolicies{i}{4}(3)
 * (0 + gamma * statesWithPolicies{i-5}{3})+statesWithPolicies{i}{4}
(4) * (0 + gamma * statesWithPolicies{i+5}{3});
                % bottom side
                elseif(any(strcmp({'Ad', '22', '23'},
 statesWithPolicies{i}{1})))
                    % right
                    tempstore{i}{3} = statesWithPolicies{i}{4}(2) * (0
 + gamma * statesWithPolicies{i+1}{3})+statesWithPolicies{i}{4}(1) *
 (0 + gamma * statesWithPolicies{i-1}{3})+statesWithPolicies{i}{4}(3)
 * (0 + gamma * statesWithPolicies{i-5}{3})+statesWithPolicies{i}{4}
(4) * (-1 + gamma * statesWithPolicies{i}{3});
                % left side
                elseif(any(strcmp({'5', '10', '15'},
 statesWithPolicies{i}{1})))
                    % right
                    tempstore{i}{3} = statesWithPolicies{i}{4}(2) * (0
 + gamma * statesWithPolicies{i+1}{3}) +statesWithPolicies{i}{4}(1) *
 (-1 + gamma * statesWithPolicies{i}{3}) + statesWithPolicies{i}{4}(3)
 * (0 + gamma * statesWithPolicies{i-5}{3})+statesWithPolicies{i}{4}
(4) * (0 + gamma * statesWithPolicies{i+5}{3});
                % corners
                elseif('0' == statesWithPolicies{i}{1})
                    % right
                    tempstore{i}{3} = statesWithPolicies{i}{4}(2) * (0
 + gamma * statesWithPolicies{i+1}{3}) + statesWithPolicies{i}{4}(1) *
 (-1 + gamma * statesWithPolicies{i}{3}) + statesWithPolicies{i}{4}(3)
```

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 * (-1 + gamma * statesWithPolicies{i}{3}) + statesWithPolicies{i}{4}
(4) * (0 + gamma * statesWithPolicies{i+5}{3});
                elseif('4' == statesWithPolicies{i}{1})
                    % right
                    tempstore{i}{3} = statesWithPolicies{i}{4}(2) *
 (-1 + gamma * statesWithPolicies{i}{3})+statesWithPolicies{i}{4}(1) *
 (0 + gamma * statesWithPolicies{i-1}{3})+statesWithPolicies{i}{4}(3)
 * (-1 + gamma * statesWithPolicies{i}{3})+statesWithPolicies{i}{4}(4)
 * (0 + gamma * statesWithPolicies{i+5}{3});
                elseif('24' == statesWithPolicies{i}{1})
                    % right
                    tempstore{i}{3} = statesWithPolicies{i}{4}(2) *
 (-1 + gamma * statesWithPolicies{i}{3})+statesWithPolicies{i}{4}(1) *
 (0 + gamma * statesWithPolicies{i-1}{3})+statesWithPolicies{i}{4}(3)
 * (0 + gamma * statesWithPolicies{i-5}{3})+statesWithPolicies{i}{4}
(4) * (-1 + gamma * statesWithPolicies{i}{3});
                elseif('20' == statesWithPolicies{i}{1})
                    % right
                    tempstore{i}{3} = statesWithPolicies{i}{4}(2) * (0
 + gamma * statesWithPolicies{i+1}{3})+statesWithPolicies{i}{4}(1) *
 (-1 + gamma * statesWithPolicies{i}{3})+statesWithPolicies{i}{4}(3) *
 (0 + gamma * statesWithPolicies{i-5}{3})+statesWithPolicies{i}{4}(4)
 * (-1 + gamma * statesWithPolicies{i}{3});
                % All other cases
                else
                    % right
                    tempstore{i}{3} = (statesWithPolicies{i}{4}(2) *
 (gamma * statesWithPolicies{i+1}{3})) + (statesWithPolicies{i}{4}(1)
 * (gamma * statesWithPolicies{i-1}{3})) + (statesWithPolicies{i}{4}
(3) * (gamma * statesWithPolicies{i-5}{3})) + (statesWithPolicies{i}
{4}(4) * (gamma * statesWithPolicies{i+5}{3}));
                end

                delta = max(delta, abs(lastStateValue - tempstore{i}
{3}));
            end
        end

        statesWithPolicies = tempstore;
        if(delta < accuracyfactor)
            innerloop = 0;
        end
        valueIterIndex = valueIterIndex + 1;
    end
    printValuesOfStates(statesWithPolicies);

    % Perform greedy improvement on all states
    statesWithPolicies =
 calculateGreedyPolicyForAState(statesWithPolicies);

    exit = 1;
    for k = 1:25
        statesWithPolicies{k}{5} = 1;
        if(tempvariable{k}{2} ~= statesWithPolicies{k}{2})
```

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                exit = 0;
            end
        end

        innerloop = 1;
        policyIndex = policyIndex + 1;

        if(exit)
            break;
        end
    end

    printPolicy(statesWithPolicies, policyIndex, 1)
    printValuesOfStates(statesWithPolicies)

    function printPolicy(statesWithPolicies, policyNumber, optimal)
        temporary = statesWithPolicies;
        for final = 1:25
            temporary{final}(4) = [];
            temporary{final}(4) = [];
        end
        t = cell2table(transpose(temporary),'VariableNames',
    {'Column-1', 'Column-2', 'Column-3', 'Column-4', 'Column-5'});
        fig = uifigure;
        if(optimal == 0)
            fig.Name = ['Policy: ',  num2str(policyNumber)];
        else
            fig.Name = 'Optimal Policy';
        end
        fig.Position(3) = 1000;

        uitable(fig,'Data',t, 'ColumnWidth',{199, 199,  199, 199,
     199}, 'Position',[10 10 1000 300]);
    end

    function printValuesOfStates(statesWithPolicies)
        disp(['***************** Value of states *****************'])
        for v=1:numel(statesWithPolicies)
            formatSpec = 'Value at state: %s is %d \n';
            fprintf(formatSpec,statesWithPolicies{v}
    {1},statesWithPolicies{v}{3});
        end
        disp(['***********************************************'])
    end

    function stateinfo =
     calculateGreedyPolicyForAState(statesWithPolicies)
        gamma = 0.9;
        temporaryStore = statesWithPolicies;
        for state=1:25
            % left right up down
            policyDirection = [0 0 0 0];

            % top side
```

```matlab
        if(any(strcmp({'A'}, statesWithPolicies{state}{1})))
            % right
            policyDirection(2) = (10 + gamma * statesWithPolicies{22}
{3});

            % left
            policyDirection(1) = (10 + gamma * statesWithPolicies{22}
{3});

            % up
            policyDirection(3) = (10 + gamma * statesWithPolicies{22}
{3});

            % down
            policyDirection(4) =  (10 + gamma * statesWithPolicies{22}
{3});
        elseif(any(strcmp({'B'}, statesWithPolicies{state}{1})))
            % right
            policyDirection(2) = (5 + gamma * statesWithPolicies{19}
{3});

            % left
            policyDirection(1) = (5 + gamma * statesWithPolicies{19}
{3});

            % up
            policyDirection(3) = (5 + gamma * statesWithPolicies{19}
{3});

            % down
            policyDirection(4) = (5 + gamma * statesWithPolicies{19}
{3});
        elseif(any(strcmp({'2'}, statesWithPolicies{state}{1})))
            % right
            policyDirection(2) = (gamma * statesWithPolicies{state+1}
{3});

            % left
            policyDirection(1) = (gamma * statesWithPolicies{state-1}
{3});

            % up
            policyDirection(3) = (-1 + gamma *
 statesWithPolicies{state}{3});

            % down
            policyDirection(4) = (gamma * statesWithPolicies{state+5}
{3});
        % right side
        elseif(any(strcmp({'9', '14', '19'}, statesWithPolicies{state}
{1})))
            % right
            policyDirection(2) = (-1 + gamma *
 statesWithPolicies{state}{3});
```

```matlab
            % left
            policyDirection(1) = (0 + gamma *
 statesWithPolicies{state-1}{3});

            % up
            policyDirection(3) = (0 + gamma *
 statesWithPolicies{state-5}{3});

            % down
            policyDirection(4) = (0 + gamma * statesWithPolicies{state
+5}{3});
        % bottom side
        elseif(any(strcmp({'Ad', '22', '23'},
 statesWithPolicies{state}{1})))
            % right
            policyDirection(2) = (0 + gamma * statesWithPolicies{state
+1}{3});

            % left
            policyDirection(1) = (0 + gamma *
 statesWithPolicies{state-1}{3});

            % up
            policyDirection(3) = (0 + gamma *
 statesWithPolicies{state-5}{3});

            % down
            policyDirection(4) = (-1 + gamma *
 statesWithPolicies{state}{3});
        % left side
        elseif(any(strcmp({'5', '10', '15'}, statesWithPolicies{state}
{1})))
            % right
            policyDirection(2) = (0 + gamma * statesWithPolicies{state
+1}{3});

            % left
            policyDirection(1) = (-1 + gamma *
 statesWithPolicies{state}{3});

            % up
            policyDirection(3) = (0 + gamma *
 statesWithPolicies{state-5}{3});

            % down
            policyDirection(4) = (0 + gamma * statesWithPolicies{state
+5}{3});
        % corners
        elseif('0' == statesWithPolicies{state}{1})
            % right
            policyDirection(2) = (0 + gamma * statesWithPolicies{state
+1}{3});
```

```matlab
                % left
                policyDirection(1) = (-1 + gamma *
    statesWithPolicies{state}{3});

                % up
                policyDirection(3) = (-1 + gamma *
    statesWithPolicies{state}{3});

                % down
                policyDirection(4) = (0 + gamma * statesWithPolicies{state
    +5}{3});
        elseif('4' == statesWithPolicies{state}{1})
                % right
                policyDirection(2) = (-1 + gamma *
    statesWithPolicies{state}{3});

                % left
                policyDirection(1) = (0 + gamma *
    statesWithPolicies{state-1}{3});

                % up
                policyDirection(3) = (-1 + gamma *
    statesWithPolicies{state}{3});

                % down
                policyDirection(4) = (0 + gamma * statesWithPolicies{state
    +5}{3});
        elseif('24' == statesWithPolicies{state}{1})
                % right
                policyDirection(2) = (-1 + gamma *
    statesWithPolicies{state}{3});

                % left
                policyDirection(1) = (0 + gamma *
    statesWithPolicies{state-1}{3});

                % up
                policyDirection(3) = (0 + gamma *
    statesWithPolicies{state-5}{3});

                % down
                policyDirection(4) = (-1 + gamma *
    statesWithPolicies{state}{3});
        elseif('20' == statesWithPolicies{state}{1})
                % right
                policyDirection(2) = (0 + gamma * statesWithPolicies{state
    +1}{3});

                % left
                policyDirection(1) = (-1 + gamma *
    statesWithPolicies{state}{3});

                % up
```

```matlab
                policyDirection(3) = (0 + gamma *
statesWithPolicies{state-5}{3});

                % down
                policyDirection(4) = (-1 + gamma *
statesWithPolicies{state}{3});
            % All other cases
            else
                % right
                policyDirection(2) = (0 + gamma * statesWithPolicies{state
+1}{3});

                % left
                policyDirection(1) = (0 + gamma *
statesWithPolicies{state-1}{3});

                % up
                policyDirection(3) = (0 + gamma *
statesWithPolicies{state-5}{3});

                % down
                policyDirection(4) = (0 + gamma * statesWithPolicies{state
+5}{3});
            end

            maxval = max(policyDirection);
            lia = ismember(policyDirection, maxval);
            idx = find(lia);

            prob = 1;
            temporaryStore{state}{4} = [0, 0, 0, 0];
            for i = 1:numel(idx)
                temporaryStore{state}{4}(idx(i)) = (prob/numel(idx));
                if(size(idx) == 1)
                    break;
                end
            end

            policy = '';
            if(temporaryStore{state}{4}(1) ~= 0)
                policy = policy + "#";
            end
            if(temporaryStore{state}{4}(2)~= 0)
                policy = policy + "#";
            end
            if(temporaryStore{state}{4}(3)~= 0)
                policy = policy + "#";
            end
            if(temporaryStore{state}{4}(4)~= 0)
                policy = policy + "#";
            end
            temporaryStore{state}{2} = policy;
        end
    stateinfo = temporaryStore;
```

```matlab
    % check if the policies are same as last time
end
```

***************** Value of states *****************
Value at state: 0 is 3.301474e+00
Value at state: A is 8.994356e+00
Value at state: 2 is 4.254186e+00
Value at state: B is 4.557624e+00
Value at state: 4 is 1.071806e+00
Value at state: 5 is 1.409689e+00
Value at state: 6 is 2.958498e+00
Value at state: 7 is 2.077333e+00
Value at state: 8 is 1.634954e+00
Value at state: 9 is 2.833793e-01
Value at state: 10 is -2.802679e-02
Value at state: 11 is 6.577243e-01
Value at state: 12 is 6.285589e-01
Value at state: 13 is 2.474121e-01
Value at state: 14 is -4.737832e-01
Value at state: 15 is -9.387090e-01
Value at state: 16 is -3.627845e-01
Value at state: 17 is -3.032518e-01
Value at state: Bd is -4.827197e-01
Value at state: 19 is -1.084165e+00
Value at state: 20 is -1.699245e+00
Value at state: Ad is -1.184942e+00
Value at state: 22 is -1.038423e+00
Value at state: 23 is -1.219817e+00
Value at state: 24 is -1.744450e+00
****
***************** Value of states *****************
Value at state: 0 is 2.166344e+01
Value at state: A is 2.410708e+01
Value at state: 2 is 2.166344e+01
Value at state: B is 1.435106e+01
Value at state: 4 is 1.289585e+01
Value at state: 5 is 1.948142e+01
Value at state: 6 is 2.166344e+01
Value at state: 7 is 1.948142e+01
Value at state: 8 is 1.289585e+01
Value at state: 9 is 1.159468e+01
Value at state: 10 is 1.751918e+01
Value at state: 11 is 1.948142e+01
Value at state: 12 is 1.751918e+01
Value at state: 13 is 1.159468e+01
Value at state: 14 is 1.043508e+01
Value at state: 15 is 1.576826e+01
Value at state: 16 is 1.751918e+01
Value at state: 17 is 1.576826e+01
Value at state: Bd is 1.043508e+01
Value at state: 19 is 9.351061e+00
Value at state: 20 is 1.410708e+01
Value at state: Ad is 1.576826e+01

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Value at state: 22 is 1.410708e+01
Value at state: 23 is 9.351061e+00
Value at state: 24 is 8.395852e+00
***************************************************
***************** Value of states *****************
Value at state: 0 is 2.185584e+01
Value at state: A is 2.429101e+01
Value at state: 2 is 2.185584e+01
Value at state: B is 1.785584e+01
Value at state: 4 is 1.607069e+01
Value at state: 5 is 1.967069e+01
Value at state: 6 is 2.185584e+01
Value at state: 7 is 1.967069e+01
Value at state: 8 is 1.766731e+01
Value at state: 9 is 1.515685e+01
Value at state: 10 is 1.766731e+01
Value at state: 11 is 1.967069e+01
Value at state: 12 is 1.766731e+01
Value at state: 13 is 1.588640e+01
Value at state: 14 is 1.396086e+01
Value at state: 15 is 1.588640e+01
Value at state: 16 is 1.766731e+01
Value at state: 17 is 1.588640e+01
Value at state: Bd is 1.429101e+01
Value at state: 19 is 1.270719e+01
Value at state: 20 is 1.429101e+01
Value at state: Ad is 1.588640e+01
Value at state: 22 is 1.429101e+01
Value at state: 23 is 1.285584e+01
Value at state: 24 is 1.150339e+01
***************************************************
***************** Value of states *****************
Value at state: 0 is 2.186798e+01
Value at state: A is 2.431052e+01
Value at state: 2 is 2.186798e+01
Value at state: B is 1.786798e+01
Value at state: 4 is 1.607572e+01
Value at state: 5 is 1.967572e+01
Value at state: 6 is 2.186798e+01
Value at state: 7 is 1.967572e+01
Value at state: 8 is 1.770323e+01
Value at state: 9 is 1.593326e+01
Value at state: 10 is 1.770323e+01
Value at state: 11 is 1.967572e+01
Value at state: 12 is 1.770323e+01
Value at state: 13 is 1.593326e+01
Value at state: 14 is 1.431052e+01
Value at state: 15 is 1.593326e+01
Value at state: 16 is 1.770323e+01
Value at state: 17 is 1.593326e+01
Value at state: Bd is 1.431052e+01
Value at state: 19 is 1.286798e+01
Value at state: 20 is 1.431052e+01
Value at state: Ad is 1.593326e+01
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```
Value at state: 22 is 1.431052e+01
Value at state: 23 is 1.286798e+01
Value at state: 24 is 1.157572e+01
**************************************************
***************** Value of states *****************
Value at state: 0 is 2.187947e+01
Value at state: A is 2.433993e+01
Value at state: 2 is 2.187947e+01
Value at state: B is 1.787947e+01
Value at state: 4 is 1.608119e+01
Value at state: 5 is 1.968119e+01
Value at state: 6 is 2.187947e+01
Value at state: 7 is 1.968119e+01
Value at state: 8 is 1.770815e+01
Value at state: 9 is 1.593291e+01
Value at state: 10 is 1.770815e+01
Value at state: 11 is 1.968119e+01
Value at state: 12 is 1.770815e+01
Value at state: 13 is 1.593291e+01
Value at state: 14 is 1.433993e+01
Value at state: 15 is 1.593291e+01
Value at state: 16 is 1.770815e+01
Value at state: 17 is 1.593291e+01
Value at state: Bd is 1.433993e+01
Value at state: 19 is 1.287947e+01
Value at state: 20 is 1.433993e+01
Value at state: Ad is 1.593291e+01
Value at state: 22 is 1.433993e+01
Value at state: 23 is 1.287947e+01
Value at state: 24 is 1.158119e+01
**************************************************
***************** Value of states *****************
Value at state: 0 is 2.187947e+01
Value at state: A is 2.433993e+01
Value at state: 2 is 2.187947e+01
Value at state: B is 1.787947e+01
Value at state: 4 is 1.608119e+01
Value at state: 5 is 1.968119e+01
Value at state: 6 is 2.187947e+01
Value at state: 7 is 1.968119e+01
Value at state: 8 is 1.770815e+01
Value at state: 9 is 1.593291e+01
Value at state: 10 is 1.770815e+01
Value at state: 11 is 1.968119e+01
Value at state: 12 is 1.770815e+01
Value at state: 13 is 1.593291e+01
Value at state: 14 is 1.433993e+01
Value at state: 15 is 1.593291e+01
Value at state: 16 is 1.770815e+01
Value at state: 17 is 1.593291e+01
Value at state: Bd is 1.433993e+01
Value at state: 19 is 1.287947e+01
Value at state: 20 is 1.433993e+01
Value at state: Ad is 1.593291e+01
```

```
Value at state: 22 is 1.433993e+01
Value at state: 23 is 1.287947e+01
Value at state: 24 is 1.158119e+01
*************************************************
```

Column-1			Column-2			Column-3			Column-4			Column-5		
0	←→↑↓	0	A	←→↑↓	0	2	←→↑↓	0	B	←→↑↓	0	4	←→↑↓	0
5	←→↑↓	0	6	←→↑↓	0	7	←→↑↓	0	8	←→↑↓	0	9	←→↑↓	0
10	←→↑↓	0	11	←→↑↓	0	12	←→↑↓	0	13	←→↑↓	0	14	←→↑↓	0
15	←→↑↓	0	16	←→↑↓	0	17	←→↑↓	0	Bd	←→↑↓	0	19	←→↑↓	0
20	←→↑↓	0	Ad	←→↑↓	0	22	←→↑↓	0	23	←→↑↓	0	24	←→↑↓	0

Column-1			Column-2			Column-3			Column-4			Column-5		
0	→	3.3015	A	←→↑↓	8.9944	2	←	4.2542	B	←→↑↓	4.5576	4	←	1.0718
5	↑	1.4097	6	↑	2.9585	7	↑	2.0773	8	↑	1.6350	9	←	0.2834
10	↑	-0.0280	11	↑	0.6577	12	↑	0.6286	13	↑	0.2474	14	↑	-0.4738
15	↑	-0.9387	16	↑	-0.3628	17	↑	-0.3033	Bd	↑	-0.4827	19	↑	-1.0842
20	↑	-1.6992	Ad	↑	-1.1849	22	↑	-1.0384	23	↑	-1.2198	24	↑	-1.7445

Column-1			Column-2			Column-3			Column-4			Column-5		
0	→	21.6634	A	←→↑↓	24.1071	2	←	21.6634	B	←→↑↓	14.3511	4	←	12.8959
5	→↑	19.4814	6	↑	21.6634	7	←↑	19.4814	8	←	12.8959	9	←↑	11.5947
10	→↑	17.5192	11	↑	19.4814	12	←↑	17.5192	13	←	11.5947	14	←↑	10.4351
15	→↑	15.7683	16	↑	17.5192	17	←↑	15.7683	Bd	←	10.4351	19	←↑	9.3511
20	→↑	14.1071	Ad	↑	15.7683	22	←↑	14.1071	23	←	9.3511	24	←↑	8.3959

Column-1			Column-2			Column-3			Column-4			Column-5		
0	→	21.8558	A	←→↑↓	24.2910	2	←	21.8558	B	←→↑↓	17.8558	4	←	16.0707
5	→↑	19.6707	6	↑	21.8558	7	←↑	19.6707	8	←	17.6673	9	←	15.1569
10	→↑	17.6673	11	↑	19.6707	12	←↑	17.6673	13	←↑	15.8864	14	←	13.9609
15	→↑	15.8864	16	↑	17.6673	17	←↑	15.8864	Bd	←↑	14.2910	19	←	12.7072
20	→↑	14.2910	Ad	↑	15.8864	22	←↑	14.2910	23	←↑	12.8558	24	←	11.5034

Column-1			Column-2			Column-3			Column-4			Column-5		
0	→	21.8680	A	←→↑↓	24.3105	2	←	21.8680	B	←→↑↓	17.8680	4	←	16.0757
5	→↑	19.6757	6	↑	21.8680	7	←↑	19.6757	8	←	17.7032	9	←	15.9333
10	→↑	17.7032	11	↑	19.6757	12	←↑	17.7032	13	←↑	15.9333	14	←↑	14.3105
15	→↑	15.9333	16	↑	17.7032	17	←↑	15.9333	Bd	←↑	14.3105	19	←↑	12.8680
20	→↑	14.3105	Ad	↑	15.9333	22	←↑	14.3105	23	←↑	12.8680	24	←↑	11.5757

Column-1			Column-2			Column-3			Column-4			Column-5		
0	→	21.8795	A	←→↑↓	24.3399	2	←	21.8795	B	←→↑↓	17.8795	4	←	16.0812
5	→↑	19.6812	6	↑	21.8795	7	←↑	19.6812	8	←	17.7081	9	←	15.9329
10	→↑	17.7081	11	↑	19.6812	12	←↑	17.7081	13	←↑	15.9329	14	←↑	14.3399
15	→↑	15.9329	16	↑	17.7081	17	←↑	15.9329	Bd	←↑	14.3399	19	←↑	12.8795
20	→↑	14.3399	Ad	↑	15.9329	22	←↑	14.3399	23	←↑	12.8795	24	←↑	11.5812

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