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| **MATLAB Program #1** |
| **Output** |
| x = 0.30294 and y = 6269.6031 |
| **Source Code** |
| %CSCI 1081, MATLAB Assignment, Problem 01  %Nalongsone Danddank, 12/11/2017.    clear  clc    %Making variables.  a = 10;  b = 2.5\*(10^23);  %Using these variables, calculate.  x = 1/(1+exp((-(a-15)/6)));  y = (sqrt(a) + b^(1/21))^pi;  %Display the values of x and y.  disp(['x = ',num2str(x),' and y = ',num2str(y)]); |
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| **MATLAB Program #2** |
| **Output** |
| A. The A row vector is: 10 20 30 40 50 60  B. The B column vector is:  0.8147  0.9058  0.1270  0.9134  0.6324  0.0975  C. The transpose of A is:  10  20  30  40  50  60  D. The C row vector is: 0.1 0.05 0.033333 0.025 0.02 0.016667  E. A multiplied elementwise by the C is: 1 1 1 1 1 1  F. The sum of the values in A is: 210  G. A multiplied by B is: 104.0781  >> |
| **Source Code** |
| %CSCI 1081, MATLAB Assignment, Problem 02  %Nalongsone Danddank, 12/11/2017.    clear  clc    %Create and display the following vectors and/or results.    %A. a row vector A of size 6  n = 6;  A = zeros(1,n);  for i=1:n  A(i) = i\*10;  end  disp(['A. The A row vector is: ', num2str(A)]);    %B. a column vector B of size 6 with random numbers  B = zeros(n,1);  for j=1:n  B(j,1) = 100\*rand;  end  disp('B. The B column vector is: ');  disp(num2str(B));    %C. The transpose of A.  disp('C. The transpose of A is: ');  disp(num2str(A.'));    %D. A new vector C that stores the  %invers of each value x in A.  C = zeros(1,n);  for k=1:n  C(1,k)=(A(1,k)).^-1;  end  disp(['D. The C row vector is: ', num2str(C)]);    %E. A multiplied elementwise by the C.  disp(['E. A multiplied elementwise by the C is: ', num2str(A.\*C)]);    %F. The sum of the values in A.  disp(['F. The sum of the values in A is: ', num2str(sum(A))]);    %G. A multiplied by B.  disp(['G. A multiplied by B is: ', num2str(A\*B)]); |

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| **MATLAB Program #3** |
| **Output** |
| g =  1 1 1 1  2 2 2 2  3 3 3 3  h =  2 2 2 2  2 2 2 2  2 2 2 2  A. g added to h :  3 3 3 3  4 4 4 4  5 5 5 5  B. each element in g multiplied by the corresponding element in h:  2 2 2 2  4 4 4 4  6 6 6 6  C. each element in g multiplied by 10:  10 10 10 10  20 20 20 20  30 30 30 30  D. the square root of each element in g:  1.0000 1.0000 1.0000 1.0000  1.4142 1.4142 1.4142 1.4142  1.7321 1.7321 1.7321 1.7321  E. g multiplied by transpose of h:  8 8 8  16 16 16  24 24 24  F. Display the last two rows of h:  2 2 2 2  2 2 2 2  >> |
| **Source Code** |
| %CSCI 1081, MATLAB Assignment, Problem 02  %Nalongsone Danddank, 12/11/2017.    clear  clc    %Create and display the following vectors and/or results.    %A. a row vector A of size 6  n = 6;  A = zeros(1,n);  for i=1:n  A(i) = i\*10;  end  disp(['A. The A row vector is: ', num2str(A)]);    %B. a column vector B of size 6 with random numbers  B = zeros(n,1);  for j=1:n  B(j,1) = 100\*rand;  end  disp('B. The B column vector is: ');  disp(num2str(B));    %C. The transpose of A.  disp('C. The transpose of A is: ');  disp(num2str(A.'));    %D. A new vector C that stores the  %invers of each value x in A.  C = zeros(1,n);  for k=1:n  C(1,k)=(A(1,k)).^-1;  end  disp(['D. The C row vector is: ', num2str(C)]);    %E. A multiplied elementwise by the C.  disp(['E. A multiplied elementwise by the C is: ', num2str(A.\*C)]);    %F. The sum of the values in A.  disp(['F. The sum of the values in A is: ', num2str(sum(A))]);    %G. A multiplied by B.  disp(['G. A multiplied by B is: ', num2str(A\*B)]); |

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| **MATLAB Program #4** |
| **Output** |
| A. The result is: 333300  B. Display the total after each 50:  300  2850  4950  5050  7750  15400  19900  20100  25200  37950  44850  45150  C. 3 by 3 (square) matrix A:  0 1 2  3 4 5  6 7 8  D. multiplies it’s three arguments: 6  >> |
| **Source Code** |
| %CSCI 1081, MATLAB Assignment, Problem 04  %Nalongsone Danddank, 12/11/2017.    function main  clear  clc    %A. a loop to calculate the sum 1\*2+2\*3+3\*4+ ... + 99\*100.  n=99;  A1 = ones(1,n);  B = ones(1,n);  C = zeros(1,n);  d = 0;  for i=1:n  A1(i) = i ;  B(i) = i+1;  C = A1.\*B;  d = d + C(i);  end  %display the result.  disp(['A. The result is: ', num2str(d)]);    %B. Create a loop to calculate the sum 1+2+3+...+300.  m=300;  X = ones(1,m);  sum1 = 0;  disp('B. Display the total after each 50: ')  for j=1:m  X(j) = j;  sum1 = sum1 + X(j);  if rem(sum1,50)==0  disp(num2str(sum1));%Display the total after each 50.  end  end    %C. Using nested loops, produce a 3 by 3 (square) matrix A.  p=3;  A = zeros(p);  i = 0;  for q=1:p  for w=1:p  A(q,w)=i;  i = i + 1;  end  end  disp('C. 3 by 3 (square) matrix A:');  disp(num2str(A));%display matrix A.    %Test multiply function with 1,2,3.  %then diaplay it's result.  U = 1:3;  disp(['D. multiplies it’s three arguments: ',num2str(multiply(U))]);  end    %D. Create a function multiply  %that multiplies it’s three arguments and returns the result.  function result = multiply( Z )  a = 1;  for r = 1 : length(Z)  a = a \* Z(r);%multiplies it’s arguments.  end  result = a;%returns the result a to the function.  end |