Group #

Name

**Exercise 1**: a) You have a cash register with $20, $10, $5, $2, $1, $0.25, $0.10, $0.05 and $0.01 bills or coins. Write a program to make change – so that, for example, if someone gives you a $10 bill for something costing $6.55 the program will calculate that you get back $3.45 in change consisting of a $2, and $1, a $0.25, and 2 $0.10

It may be useful to use the fix() function, which rounds its (>0) input to the nearest positive integer less than or equal to the input.

Store the denominations in a variable denom=[20 10 5 2 1 0.25 0.10 0.05 0.01] , the item cost in cost, the money provided in payment, and store the change in a vector change of the same size as denom.

b) Now we remove pennies, so costs are rounded to the nearest 0.05. How can we use the round() function to take this into account?

**Exercise 2:** a) For x1=[1 7 -8 2 -3 -9] what is contained in y2 in each case after the code runs? Do these three snippets of code do the same thing? Show your work.

|  |  |  |
| --- | --- | --- |
| k=0;  y2=[];  for i=1:length(x1),  if x1(i)<0,  k=k+1;  y2(k)=x1(i);  end;  end; | y2=x1;  k=0;  for i=1:length(x1),  if x1(i)<0,  k=k+1;  y2(k)=x1(i);  end;  end; | y2=[];  for i=1:length(x1),  if x1(i)<0,  y2=[y2, x1(i)];  end;  end; |

b) How would we write a piece of code that does exactly the same thing as the first one above without using loops?