Group #
Name

# EOSC 211 – Week12 – Worksheet 1

**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?

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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?