Group #:
Name:

EOSC 211 – Week 3 – Worksheet 2 – Data Structures

Exercise 1: What are the results of the following:

1. lats=[1:20];lats=[10:15]
2. L2=lats([2 4])
3. L3=lats([1 0])
4. L4=lats([1 1 0 0 1 1])
5. L5=lats(logical([1 1 0 0 1 1]))
6. L6 = lats(end-2:end)
7. L7 = lats(length(lats))
8. ii=lats>12; lats(ii)

Exercise 2: What are the results of the following:

1. lats=[10:20];
2. lat_table=[lats(1:5) ; lats(6:10)]
3. lat_table(2,[1 2])
4. lat_table([1 2],2)
5. lat_table([1 0],2)
6. lat_table(logical([1 0]),2)
7. lat_table(5)
8. lat_table(1:4)

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Exercise 3: Evaluate the following

Do the following:

```
mystruc.name='Joe Lunchbucket';
mystruc.date=datenum(2000,8,15);
mystruc.marks={10,8,'A','C',87};
```

1. What does the data structure 'mystruc' look like?

2. mystruc.name(1:3)

3. mystruc.marks(1)

4. mystruc.marks{1}

If you evaluate the following:

```
mystruc.name='Jim bulldozer'
```

5. Now what does the data structure 'mystruc' look like?

Exercise 4: Combining concepts

The function `rem(x,y)` returns the remainder of `x./y`. For example, `rem([6 7 8 9], 3)` returns `[0 1 2 0]`.

Using logical indexing in conjunction with this function, write one or two lines of code to create the array `B`, containing only the even-valued elements of the array `A`.

Assume that the array `A` is of size `1xN` and contains only integers, but you don't know the values stored in `A`.