Lecture 11 - Some Midterm Review & Examples

1. Tracing through some code - This Weeks Homework
2. Fixing a problem in code
3. Running code to test it

Trace Some Code

```
1: i = 0
2: j = 2
3: while ( i < 5 ):
4:     j = j * j
5:     j = j + 1
6:     print ( j )
```

Time / Location	i	j	note/output
t1 / line 1	0		
t2 / line 2	0	2	
t3 / line			
t4 / line			
t5 / line			
t6 / line			
t7 / line			
t8 / line			
t9 / line			
t10 / line			

Trace our amino.py main program.

(This is actually amino2.py)

```
 1: import conv_t_to_u
 2: import rna_lookup
 3:
 4: dna_input = [
 5: "taacccaugCGGTACtaaaaa",
 6: ]
 7:
 8: amino_string = ""
 9:
10: rna = conv_t_to_u.conv_t_to_u ( "".join(dna_input).lower() )
11: # print ( "rna = {}".format(rna)
12: st = "before"
13: i = 0
14: while i < len(rna)-2:
15:     three = rna[i:i+3]
16:     # print ( "st {} three >{}< at i={}".format(st, three,i))
17:     amino = rna_lookup.rna_to_amino_acid(three)
18:     if amino == '!' :
19:         print ( "Invalid 3 letter sequence {} at {}".format(three, i ) )
20:         break
21:     if st == "before" and amino == "M" :
22:         st = "encode"
23:         i = i + 3
24:     elif st == "encode" and amino == ".":
25:         st = "before"
26:         print ("Protein : ", amino_string)
27:         i = i + 3
28:     elif st == "encode" :
29:         amino_string = amino_string + amino
30:         i = i + 3
31:     else:
32:         i = i + 1
```

CF overview

1. Stephie's Videos
2. What is the cause of Cystic-Fibroses (CF)
3. How genetic coding is to be searched
4. Taking existing code that converts DNA protein Protein and re-using that in a search
5. Searching the code.

Software Is Eating The World

1. GAN's - StyleGAN2
2. Jobs https://www.bls.gov/ooh/most-new-jobs.htm, Most New Jobs Created