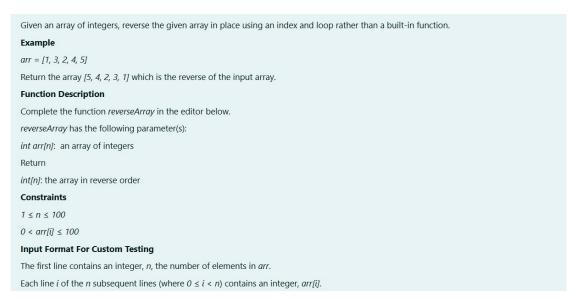
Name: Sarvesh.R Reg no: 240701478

Week 15: Pointers

1. Reverse a list Problem statement:



Program:

2. Cut them all

Problem statement:

An automated cutting machine is used to cut rods into segments. The cutting machine can only hold a rod of *minLength* or more, and it can only make one cut at a time. Given the array *lengths[]* representing the desired lengths of each segment, determine if it is possible to make the necessary cuts using this machine. The rod is marked into lengths already, in the order given.

Example

```
n = 3

lengths = [4, 3, 2]

minLength = 7
```

The rod is initially sum(lengths) = 4 + 3 + 2 = 9 units long. First cut off the segment of length 4 + 3 = 7 leaving a rod 9 - 7 = 2. Then check that the length 7 rod can be cut into segments of lengths 4 and 3. Since 7 is greater than or equal to minLength = 7, the final cut can be made. Return "Possible".

Program:

```
29 _{\mbox{\scriptsize v}}|\mbox{\scriptsize char*} cutThemAll(int lengths_count, long *lengths, long minLength) {
           long t=0,i=1;
for (int i=0;i<=lengths_count-1;i++)</pre>
30
31
32
           {
                t+=lengths[i];
33
34
35
           do
36
                if(t-lengths[lengths_count-i-1]<minLength)</pre>
37
38
                      return "Impossible";
39
40
41
          }while(i<lengths_count-1);
return "Possible";</pre>
42
43
44
     }
45
```

~	<pre>long lengths[] = {3, 5, 4, 3}; printf("%s", cutThemAll(4, lengths, 9))</pre>	Possible	Possible	~
~	<pre>long lengths[] = {5, 6, 2}; printf("%s", cutThemAll(3, lengths, 12))</pre>	Impossible	Impossible	~