Question 1.a

Stack	Buffer	New dependency	Transition
[ROOT]	[I, parsed, this, sentence, correctly]		Initial configuration
[ROOT, I]	[parsed, this, sentence, correctly]		SHIFT
[ROOT, I, parsed]	[this, sentence, correctly]		SHIFT
[ROOT, parsed]	[this, sentence, correctly]	Parsed -> I	LEFT-ARC
[ROOT, parsed, this]	[sentence, correctly]		SHIFT
[ROOT, parsed, this, sentence]	[correctly]		SHIFT
[ROOT, parsed, sentence]	[correctly]	Sentence -> this	LEFT-ARC
[ROOT, parsed]	[correctly]	Parse -> sentence	RIGHT-ARC
[ROOT, parsed, correctly]	0		SHIFT
[ROOT, parsed]		Parse -> correctly	RIGHT-ARC
[ROOT]		ROOT -> parsed	RIGHT-ARC

Question 1.b

No of steps : 2n

No of steps to move from buffer to stack is ${\bf n}$ and

n steps for mapping to dependency