Q1

a) 1) $\langle 7, 6, 3, 4, +, 9, *, +, 4, +, * \rangle$

$$3 + 4 = 7$$
$$7 * 9 = 63$$
$$6 + 63 = 69$$
$$69 + 4 = 73$$
$$7 * 73 = 511 \quad \text{Ans.}$$

11) Infix : $p + q * r + (s * t + u) * v$

Let postfix expression be P so

Symbol Scanned	STACK	P
P		P
+	+	P
q	+	pq
+	+ *	pq
r	+ *	pqr
+	+ *	pqr*+
(	+ (	pqr*+
s	+ (	pqr*+s
*	+ (*	pqr*+s
t	+ (*	pqr*+st*
+	+ (+	pqr*+st*u
u	+ (+	pqr*+st*u+
)	+	pqr*+st*u+
*	+ *	pqr*+st*u+
v		pqr*+st*u+v*+

So, P = : $pqr^* + st^* u + v^* +$

b) $k = \{94, 37, 29, 40, 84, 88, 102, 63, 67\}$

0	
1	40
2	67
3	94
4	
5	29
6	84
7	
8	102
9	
10	98
11	37
12	63

$94\% \ 13 = 3$

$37\% \ 13 = 11$

$29\% \ 13 = 3 \longrightarrow h'(k) = (k\% \ 7) + 1$

$\qquad\qquad\qquad\qquad\qquad = 2$

$\qquad\qquad\qquad\qquad \therefore 3 + 2 = 5$

$40\% \ 13 = 1$

$84\% \ 13 = 6$

$88\% \ 13 = 10$

$102\% \ 13 = 11$

$h'(k) = (k\% \ 7) + 1$

$\qquad\qquad = 5$

$h_1 + h_2 = 11 + 5 = 16$

$h_1 + 2h_2 = 11 + 10 = 21$

$63\% \ 13 = 11 \longrightarrow h'(k) = (63\% \ 7) + 1$

$\qquad\qquad\qquad\qquad\qquad = 1$

$\qquad\qquad\qquad h_1 + h_2 = 12$

$67\% \ 13 = 2$