(a)

What is a Hash Table?

A hash code is a piece of information created by a hash function which stores the data in a specific spot in a Hash Table.

(b)

Description of your Hash Table application

Our hash table takes a username of max 6 characters and converts them to a number by adding the ASCII values of each character. Using this number, we perform a mod 20 as our hash function on it and store it in a hash table of size 20. In the case of a collision occurring we will be using linear probing.

(c)

Table of the Data used under the following headlines:

Username	ASCII Integer	Index after Hash function applied
LumiNo	76+117+109+105+78+111	596 % 20 = 16
Aer0Ny	65+101+114+48+78+121	527 % 20 = 7
S0lar1	83+48+108+97+114+49	499 % 20 = 19
K1nDer	75+49+110+68+101+114	517 % 20 = 17
Rave3n	82+97+118+101+51+110	559 % 20 = 19
V8xurA	86+56+120+117+114+65	558 % 20 = 18
NoXe1l	78+111+88+101+49+108	535 % 20 = 15
E1v3ri	69+49+118+51+114+105	506 % 20 = 6
CYm4ra	67+89+109+52+114+97	528 % 20 = 8

5yp4er	53+121+112+52+101+114	553 % 20 = 13

(d)

Diagram of the Hash Table produced- with collisions highlighted

0	Rave3n	10	
1		11	
2		12	
3		13	5yp4er
4		14	
5		15	NoXe1l
6	E1v3ri	16	LumiNo
7	Aer0Ny	17	K1nDer
8	Cym4ra	18	V8xurA
9		19	S0lar1