

**HASH Function:**

- convert the 3 char's to their 3 ASCII codes  
(giving 3 int's, all between 65 to 90, inclusive)

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90

- multiply those 3 numbers together  
(giving a number between  $65*65*65=274,625$  through  $90*90*90=729,000$ )
- use the famous "division-remainder" algorithm to get homeAddress  
(i.e., use the remainder (the % operator) from dividing step #2 result by MAX\_N\_HOME\_LOC)  
(giving a number between 0 and MAX\_N\_HOME\_LOC – 1, inclusive)
- return that as the homeAddress

Country Code	DRP (ID)	3 ASCII codes	Multiplied together	Home Address
MEX	12	77 * 69 * 88	467,544	4
CHN	3	67 * 72 * 78	376,272	12
JPN	9			0
USA	6			15
FRA	19			0
BEL	27			4
GBR	17			12
HTI	30			4
VEN	22			12
NIC	31			18
POL	20			0
YEM	24			17
EGY	15			11
LBN	32			8
IND	4			12
OMN	33			14
DEU	13			0
SOM	28			9
WSM	36			17
KEN	21			10
XVI	1			4
QAT	35			0
ZWE	25			10
RUS	8			10
TCA	37			0
ATA	39			0

This structure is NOT in memory – it's just a worksheet to determine HOME ADDRESS (based on HashFunction)