You are given the network address of **132.39.0.0** to subnet and provide the IP addressing for a network. Design for a minimum of **1024** subnets.

1. How many bits must be borrowed to this number of subnet?
2. How many subnets does this create?
3. What address class is this network address ?
4. What is the custom subnet mask (in binary) and in CIDR format?
5. How many usable hosts does this create per subnet?
6. What is the 2nd usable address in the second subnet?

Design the VLSM according to the required minimum hosts as shown in the table below. You are required to include the subnet for **two (2)**WAN links.

|  |  |
| --- | --- |
| **Network address 118.0.0.0** | |
| **Branch** | **Number of usable hosts** |
| Branch A1 | 8,000 |
| Branch B1 | 77 |
| Branch C1 | 1,048,574 |

1. Fill in the table with the subnet addresses that you have designed.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Branch/ number of nearest usable host** | **CIDR** | **Subnet Network Address** | **Subnet Broadcast Address** | **Range of usable IP** |
| 0 |  |  |  |  |  |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |

1. What is the 3rd last usable address in Branch A1 subnet?
2. What is the 2nd usable address in Branch C1 subnet?