|  |  |
| --- | --- |
| **1. Graph Theory**  The directed graph  formed is shown on  the right. | **1.** As shown |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | 0 | 1 | 0 | 0 | 1 | | 0 | 0 | 1 | 1 | 1 | | 1 | 0 | 0 | 0 | 1 | | 1 | 0 | 0 | 0 | 1 | | 0 | 0 | 1 | 0 | 0 |   **2. Graph Theory** | **2.** As shown |
| **3. Digital Electronics**  The digital circuit translates to:  =  =  =  = = | **3.** |
| **4. Digital Electronics**  The digital circuit translates to:  =  =  =  =  and This makes  and .  This is true for 4 cases: (\*, \*, 1) | **4.** 4 |
| **5. What Does This Program Do?**  First loop places letters greater than H and not T in B.  B = “NRRNSININS”. The second loop eliminates N’s and S’s from  B and places the remaining letters in C. C = “RRII”. The print statement  takes the first and last letters in C and concatenates them to produce RI. | **5.** RI |