

**Instituto**

**Politécnico**

**Nacional**

**Escuela Superior de Cómputo**

**Analizador de Trama**

**Materia:**

Redes de computadoras

**Grupo:**

2CM10

**Grupo:**

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PROTOCÓLO DE RESOLUCIÓN DE DIRECCIONES

El Protocolo de resolución de direcciones ( ARP ) es un protocolo de comunicación utilizado para descubrir la dirección de la capa de enlace , como una dirección MAC , asociada con una dirección de capa de Internet dada , generalmente una dirección IPv4 . Este mapeo es una función crítica en el conjunto de protocolos de Internet . ARP fue definido en 1982 por RFC 826 , [1] que es el estándar de Internet STD 37.

ARP se ha implementado con muchas combinaciones de tecnologías de capa de enlace de datos y red, como IPv4 , Chaosnet , DECnet y Xerox PARC Universal Packet (PUP) utilizando los estándares IEEE 802 , FDDI , X.25 , Frame Relay y modo de transferencia asincrónica (ATM) . IPv4 sobre IEEE 802.3 e IEEE 802.11 es el uso más común [ cita requerida ] .

En las redes de Protocolo de Internet versión 6 (IPv6), la funcionalidad de ARP es proporcionada por el Protocolo de descubrimiento de vecinos (NDP).

DIRECCIÓN DE PROTOCOLO DE INTERNET

Una dirección de Protocolo de Internet ( dirección IP ) es una etiqueta numérica asignada a cada dispositivo conectado a una red informática que utiliza el Protocolo de Internet para la comunicación. [1] [2] Una dirección IP cumple dos funciones principales: identificación de interfaz de host o red y direccionamiento de ubicación .

El Protocolo de Internet versión 4 (IPv4) define una dirección IP como un número de 32 bits . [2] Sin embargo, debido al crecimiento de Internet y al agotamiento de las direcciones IPv4 disponibles , en 1998 se estandarizó una nueva versión de IP ( IPv6 ), que usa 128 bits para la dirección IP. [3] [4] [5 ] La implementación de IPv6 ha estado en curso desde mediados de los años 2000.

Las direcciones IP se escriben y se muestran en anotaciones legibles para humanos , como 172.16.254.1 en IPv4 y 2001: db8: 0: 1234: 0: 567: 8: 1 en IPv6. El tamaño del prefijo de enrutamiento de la dirección se designa en notación CIDR mediante el sufijo de la dirección con el número de bits significativos, por ejemplo, 192.168.1.15 / 24 , que es equivalente a la máscara de subred históricamente utilizada 255.255.255.0 .

El espacio de direcciones IP es administrado globalmente por la Autoridad de Números Asignados de Internet (IANA) y por cinco registros regionales de Internet (RIR) responsables en sus territorios designados para la asignación a registros locales de Internet , como proveedores de servicios de Internet y otros usuarios finales. La IANA distribuyó las direcciones IPv4 a los RIR en bloques de aproximadamente 16,8 millones de direcciones cada una, pero se han agotado a nivel de la IANA desde 2011. Solo uno de los RIR todavía tiene un suministro para las tareas locales en África. [6] Algunas direcciones IPv4 están reservadas para redes privadas y no son globalmente únicas.

Los administradores de red asignan una dirección IP a cada dispositivo conectado a una red. Dichas asignaciones pueden ser estáticas (fijas o permanentes) o dinámicas , según las prácticas de la red y las características del software.

CÓDIGO

1. #include<stdio.h>
3. **int** CheckSum(unsigned **char** Trama[]){
4. **int** i;
5. unsigned **int** CheckSum=0;
6. **for**(i=14; i<(13+((Trama[14]&15)\*4)); i++){
7. **if**(i==24) i++;
8. **else** CheckSum+=Trama[i++]<<8 | Trama[i];
9. }
10. CheckSum=((CheckSum>>16) | (CheckSum & 0xffff)) ^ 0xffff;
12. **if**(((Trama[24]<<8) | Trama[25]) == CheckSum) printf("\nCheckSum: Correct");
13. **else** printf("\nCheckSum: Incorrect");
14. }
16. **void** Analizador(unsigned **char** Trama[], **int** n){
17. **int** i;
18. unsigned **char** S[][5]={"RR","RNR", "REJ", "SREJ"};
19. unsigned **char** UC[][6]={"UI","SIM", "-", "SARM", "UP", "-", "-", "SABM", "DISC", "-", "-", "SARME", "-", "-", "-", "SABME", "SNRM", "-", "-", "RSET", "-", "-", "XID", "-", "-", "-", "SNRME"};
20. unsigned **char** UR[][6]={"UI","RIM", "-", "DM", "-", "-", "-", "SABM", "RD", "-", "-", "-", "UA", "-", "-", "-", "-", "FRMR", "-", "-", "-", "-", "XID", "-", "-", "-", "-"};
22. printf("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");
23. printf("Trama No. %d", n+1);
25. printf("\nMAC destino: ");
26. **for**(i=0; i<6; i++){
27. printf("%.2x", Trama[i]);
28. **if**(i!=5) printf(":");
29. **else** **break**;
30. }
32. printf("\nMAC origen: ");
33. **for**(i=6; i<12; i++){
34. printf("%.2x", Trama[i]);
35. **if**(i!=11) printf(":");
36. **else** **break**;
37. }
39. printf("\nTamanio: %d bytes\n", (Trama[12]<<8 | Trama[13]));
41. **if**((Trama[12]<<8 | Trama[13]) < 1500){
42. printf("\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");
43. printf("\tLLC\n");
44. printf("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");
46. **switch**(Trama[16] & 3){
47. **case** 0: //T-I
48. printf("\nTrama-Informacion:\n\tN(s): %d\n\tN(r): %d", Trama[16]>>1, Trama[17]>>1);
49. **if**(Trama[17] & 1){
50. **if**(Trama[15] & 1)
51. printf("\nf");
52. **else**
53. printf("\np");
54. }
55. **break**;
56. **case** 1: //T-S
57. printf("\nTrama-Supervision (%s):\n\tN(r): %d", S[(Trama[16]>>2) & 3], Trama[17]>>1);
58. **break**;
59. **case** 2: //T-I
60. printf("\nTrama-Informacion:\n\tN(s): %d\n\tN(r): %d", Trama[16]>>1, Trama[17]>>1);
61. **if**(Trama[17] & 1){
62. **if**(Trama[15] & 1)
63. printf("\nf");
64. **else**
65. printf("\np");
66. }
67. **break**;
68. **case** 3: //T-U
69. printf("\nTrama-No Numerada:");
70. **if**(Trama[16] & 16){ //pf=1?
71. **if**(Trama[15] & 1) //LSB SAPo=1, es respuesta
72. printf("T-U (%s), f", UR[((Trama[16]>>2) & 3) | ((Trama[16]>>3) & 28)]);
73. **else** //es comando
74. printf("T-U (%s), p", UC[((Trama[16]>>2)&3) | ((Trama[16]>>3)&28)]);
75. }
76. **break**;
77. }
78. }
79. **else** **if**((Trama[12]<<8 | Trama[13]) == 2048){
80. printf("\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");
81. printf("\tIP\n");
82. printf("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");
84. printf("\nVersion: %d", Trama[14]>>4);
86. printf("\nIHL (Internet Header Lenght): %d bytes", (Trama[14]&15)\*4);
88. printf("\nToS (Type of Service): ");
89. **if**(Trama[15]&16) printf("Minimize delay");
90. **else** **if**(Trama[15]&8) printf("Maximize throughout");
91. **else** **if**(Trama[15]&4) printf("Maximize reliability");
92. **else** **if**(Trama[15]&2) printf("Minimize cost");
93. **else** printf("None");
95. printf("\nTotal lenght: %d bytes", Trama[16]<<8 | Trama[17]);
97. printf("\nIndentification: 0x%x", Trama[18]<<8 | Trama[19]);
99. printf("\nFlags: ");
100. **if**(((Trama[20]>>5) & 2) && ((Trama[20]>>5) & 1)) printf("011 -> Don't Fragment / More Fragment");
101. **else** **if**(((Trama[20]>>5) ^ 2) && ((Trama[20]>>5) ^ 1)) printf("000 -> \*\*\*\*\*\*\*\*\*\*\*\*\*\* / \*\*\*\*\*\*\*\*\*\*\*\*\*");
102. **else** **if**(((Trama[20]>>5) ^ 2) && ((Trama[20]>>5) & 1)) printf("001 -> \*\*\*\*\*\*\*\*\*\*\*\*\*\* / More Fragment");
103. **else** **if**(((Trama[20]>>5) & 2) && ((Trama[20]>>5) ^ 1)) printf("010 -> Don't Fragment / \*\*\*\*\*\*\*\*\*\*\*\*\*");
105. printf("\nFragment offset: %d", (Trama[20] & 31)<<8 | Trama[19]);
107. printf("\nTime to live: %d jumps", Trama[22]);
109. printf("\nProtocol: %d -> ", Trama[23]);
110. **switch**(Trama[23]){
111. **case** 1:
112. printf("ICMP");
113. **break**;
114. **case** 2:
115. printf("IGMP");
116. **break**;
117. **case** 6:
118. printf("TCP");
119. **break**;
120. **case** 9:
121. printf("IGRP");
122. **break**;
123. **case** 17:
124. printf("UDP");
125. **break**;
126. **case** 47:
127. printf("GRE");
128. **break**;
129. **case** 50:
130. printf("ESP");
131. **break**;
132. **case** 51:
133. printf("AH");
134. **break**;
135. **case** 57:
136. printf("SKIP");
137. **break**;
138. **case** 88:
139. printf("EIGRP");
140. **break**;
141. **case** 89:
142. printf("OSPF");
143. **break**;
144. **case** 115:
145. printf("L2TP");
146. **break**;
147. **default**:
148. printf("Other");
149. **break**;
150. }
152. CheckSum(Trama);
154. printf("\nSource address: ");
155. **for**(i=26; i<30; i++){
156. printf("%d", Trama[i]);
157. **if**(i!=29) printf(".");
158. }
160. printf("\nDestination address: ");
161. **for**(i=30; i<34; i++){
162. printf("%d", Trama[i]);
163. **if**(i!=33) printf(".");
164. }
165. }
166. **else** **if**((Trama[12]<<8 | Trama[13]) == 2054){
167. printf("\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");
168. printf("\tARP\n");
169. printf("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");
171. **if**((Trama[14]<<8 | Trama[15]) == 1)
172. printf("\nHardware Address Type (Ethernet): %d ", (Trama[14]<<8 | Trama[15]));
173. **else** **if**((Trama[14]<<8 | Trama[15]) == 6)
174. printf("\nHardware Address Type (IEEE 802 LAN): %d ", (Trama[14]<<8 | Trama[15]));
176. **if**((Trama[16]<<8 | Trama[17]) == 2048)
177. printf("\nProtocol Address Type (IPv4): %d", (Trama[16]<<8 | Trama[17]));
179. **if**(Trama[18] == 6)
180. printf("\nHardware Address Lenght (Ethernet/IEEE 802): %d ", Trama[18]);
182. **if**(Trama[19] == 4)
183. printf("\nProtocol Address Lenght (IPv4): %d ", Trama[19]);
185. **if**((Trama[20]<<8 | Trama[21]) == 1)
186. printf("\nOperation (Request): %d ", (Trama[20]<<8 | Trama[21]));
187. **else** **if**((Trama[20]<<8 | Trama[21]) == 2)
188. printf("\nOperation (Reply): %d ", (Trama[20]<<8 | Trama[21]));
189. **else** **if**((Trama[20]<<8 | Trama[21]) == 3)
190. printf("\nOperation (Request Inv): %d ", (Trama[20]<<8 | Trama[21]));
191. **else** **if**((Trama[20]<<8 | Trama[21]) == 4)
192. printf("\nOperation (Reply Inv): %d ", (Trama[20]<<8 | Trama[21]));
194. printf("\nSource Hardware Address: ");
195. **for**(i=22; i<28; i++){
196. printf("%.2x", Trama[i]);
197. **if**(i!=27) printf(":");
198. }
200. printf("\nSource Protocol Address: ");
201. **for**(i=28; i<32; i++){
202. printf("%.2x", Trama[i]);
203. **if**(i!=31) printf(":");
204. }
206. printf("\nTarget Hardware Address: ");
207. **for**(i=32; i<38; i++){
208. printf("%.2x", Trama[i]);
209. **if**(i!=37) printf(":");
210. }
212. printf("\nTarget Protocol Address: ");
213. **for**(i=38; i<42; i++){
214. printf("%.2x", Trama[i]);
215. **if**(i!=41) printf(":");
216. }
217. }**else** printf("\nOtro");
218. printf("\n\n\n");
219. }

222. **int** main(){
223. **int** i;
224. unsigned **char** Trama[][192]={
225. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x03,0xf0,0xf0,
226. 0x7f,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
227. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
228. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x43,0x05,0x90,0x6d}, //trama1
229. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x03,0xf0,0xf1,
230. 0x73,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
231. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
232. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x54,0x90,0x6d}, //trama2
233. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x04,0xf0,0xf0,
234. 0x01,0x01,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
235. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
236. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x41,0xa3,0x90,0x6d}, //trama3
237. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x04,0xf0,0xf1,
238. 0x01,0x01,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
239. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
240. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xf2,0x90,0x6d}, //trama4
241. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x12,0xf0,0xf0,
242. 0x00,0x01,0x0e,0x00,0xff,0xef,0x19,0x8f,0xbc,0x05,0x7f,0x00,0x23,0x00,0x7f,0x23,
243. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
244. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x41,0x91,0x6d}, //trama5
245. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x12,0xf0,0xf0,
246. 0x00,0x03,0x0e,0x00,0xff,0xef,0x17,0x81,0xbc,0x05,0x23,0x00,0x7f,0x00,0x23,0x7f,
247. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
248. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x90,0x91,0x6d}, //trama6
249. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x04,0xf0,0xf1,
250. 0x01,0x03,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
251. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
252. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xdf,0x91,0x6d}, //trama7
253. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x04,0xf0,0xf1,
254. 0x01,0x03,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
255. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
256. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x18,0xac,0x92,0x6d}, //trama8
257. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0xac,0xf0,0xf0,
258. 0x02,0x02,0x0e,0x00,0xff,0xef,0x16,0x04,0x00,0x00,0x00,0x00,0x28,0x00,0x7f,0x23,
259. 0xff,0x53,0x4d,0x42,0x72,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
260. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x82,0x09,
261. 0x00,0x77,0x00,0x02,0x50,0x43,0x20,0x4e,0x45,0x54,0x57,0x4f,0x52,0x4b,0x20,0x50,
262. 0x52,0x4f,0x47,0x52,0x41,0x4d,0x20,0x31,0x2e,0x30,0x00,0x02,0x4d,0x49,0x43,0x52,
263. 0x4f,0x53,0x4f,0x46,0x54,0x20,0x4e,0x45,0x54,0x57,0x4f,0x52,0x4b,0x53,0x20,0x33,
264. 0x2e,0x30,0x00,0x02,0x44,0x4f,0x53,0x20,0x4c,0x4d,0x31,0x2e,0x32,0x58,0x30,0x30,
265. 0x32,0x00,0x02,0x44,0x4f,0x53,0x20,0x4c,0x41,0x4e,0x4d,0x41,0x4e,0x32,0x2e,0x31,
266. 0x00,0x02,0x57,0x69,0x6e,0x64,0x6f,0x77,0x73,0x20,0x66,0x6f,0x72,0x20,0x57,0x6f,
267. 0x72,0x6b,0x67,0x72,0x6f,0x75,0x70,0x73,0x20,0x33,0x2e,0x31,0x61,0x00,0x02,0x4e,
268. 0x54,0x20,0x4c,0x4d,0x20,0x30,0x2e,0x31,0x32,0x00,0x00,0xfb,0x92,0x6d,0x86,0xdf}, //trama9
269. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x04,0xf0,0xf1,
270. 0x01,0x04,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
271. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
272. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x7b,0x93,0x6d}, //trama10
273. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x5f,0xf0,0xf0,
274. 0x02,0x04,0x0e,0x00,0xff,0xef,0x16,0x0c,0x00,0x00,0x28,0x00,0x28,0x00,0x23,0x7f,
275. 0xff,0x53,0x4d,0x42,0x72,0x00,0x00,0x00,0x00,0x80,0x00,0x00,0x00,0x00,0x00,0x00,
276. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x82,0x09,
277. 0x11,0x05,0x00,0x02,0x02,0x00,0x01,0x00,0x68,0x0b,0x00,0x00,0x00,0x00,0x01,0x00,
278. 0x7f,0x07,0x00,0x80,0x03,0x02,0x00,0x00,0x00,0xe5,0xfe,0x29,0x25,0x7c,0xc2,0x01,
279. 0x2c,0x01,0x08,0x08,0x00,0x7f,0x07,0x00,0x80,0x32,0x3e,0xb9,0x3d,0x00,0xca,0x93}, //trama11
280. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x04,0xf0,0xf1,
281. 0x01,0x04,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
282. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
283. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x7c,0x94,0x6d}, //trama12
284. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x91,0xf0,0xf0,
285. 0x04,0x04,0x0e,0x00,0xff,0xef,0x16,0x0c,0x00,0x00,0x28,0x00,0x28,0x00,0x7f,0x23,
286. 0xff,0x53,0x4d,0x42,0x73,0x00,0x00,0x00,0x00,0x10,0x00,0x00,0x00,0x00,0x00,0x00,
287. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x82,0x09,
288. 0x0d,0x75,0x00,0x5d,0x00,0x68,0x0b,0x02,0x00,0x00,0x00,0x7f,0x07,0x00,0x80,0x00,
289. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x01,0x00,0x00,0x00,0x20,0x00,0x00,0x00,0x45,
290. 0x53,0x43,0x4f,0x4d,0x00,0x57,0x69,0x6e,0x64,0x6f,0x77,0x73,0x20,0x34,0x2e,0x30,
291. 0x00,0x57,0x69,0x6e,0x64,0x6f,0x77,0x73,0x20,0x34,0x2e,0x30,0x00,0x04,0xff,0x00,
292. 0x00,0x00,0x02,0x00,0x02,0x00,0x17,0x00,0x20,0x00,0x5c,0x5c,0x50,0x52,0x4f,0x47,
293. 0x59,0x44,0x45,0x53,0x41,0x5c,0x49,0x50,0x43,0x24,0x00,0x49,0x50,0x43,0x00,0x00}, //trama13
294. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x04,0xf0,0xf1,
295. 0x01,0x06,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
296. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
297. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x32,0x95,0x6d}, //trama14
298. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x46,0xf0,0xf0,
299. 0x04,0x06,0x0e,0x00,0xff,0xef,0x16,0x0c,0x00,0x00,0x28,0x00,0x28,0x00,0x23,0x7f,
300. 0xff,0x53,0x4d,0x42,0x73,0x00,0x00,0x00,0x00,0x90,0x00,0x00,0x00,0x00,0x00,0x00,
301. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x03,0xc0,0x00,0x00,0x00,0x00,0x82,0x09,
302. 0x03,0x75,0x00,0x29,0x00,0x00,0x00,0x00,0x00,0x02,0xff,0x00,0x00,0x00,0x04,0x00,
303. 0x49,0x50,0x43,0x00,0x00,0x81,0x95,0x6d,0x86,0xcb,0x94,0x6d,0x86,0x0d,0x09,0x0e}, //trama15
304. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x04,0xf0,0xf1,
305. 0x01,0x06,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
306. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
307. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x20,0x96,0x6d}, //trama16
308. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x7e,0xf0,0xf0,
309. 0x06,0x06,0x0e,0x00,0xff,0xef,0x16,0x0c,0x00,0x00,0x28,0x00,0x28,0x00,0x7f,0x23,
310. 0xff,0x53,0x4d,0x42,0x25,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
311. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x03,0xc0,0x00,0x00,0x00,0x00,0x82,0x0a,
312. 0x0e,0x20,0x00,0x00,0x00,0x08,0x00,0x00,0x10,0x00,0x00,0x00,0x00,0x88,0x13,0x00,
313. 0x00,0x00,0x00,0x20,0x00,0x4c,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x2d,0x00,0x5c,
314. 0x50,0x49,0x50,0x45,0x5c,0x4c,0x41,0x4e,0x4d,0x41,0x4e,0x00,0x68,0x00,0x57,0x72,
315. 0x4c,0x65,0x68,0x44,0x7a,0x00,0x42,0x31,0x36,0x42,0x42,0x44,0x7a,0x00,0x01,0x00,
316. 0x00,0x10,0xff,0xff,0xff,0xff,0x45,0x53,0x43,0x4f,0x4d,0x00,0x00,0x6f,0x96,0x6d}, //trama17
317. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x04,0xf0,0xf1,
318. 0x01,0x08,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
319. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
320. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xbe,0x96,0x6d}, //trama18
321. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x04,0xf0,0xf1,
322. 0x01,0x08,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
323. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
324. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x5d,0x97,0x6d}, //trama19
325. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x7e,0xf0,0xf0,
326. 0x08,0x08,0x0e,0x00,0xff,0xef,0x16,0x0c,0x00,0x00,0x28,0x00,0x28,0x00,0x7f,0x23,
327. 0xff,0x53,0x4d,0x42,0x25,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
328. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x03,0xc0,0x00,0x00,0x00,0x00,0x02,0x0b,
329. 0x0e,0x20,0x00,0x00,0x00,0x08,0x00,0x00,0x10,0x00,0x00,0x00,0x00,0x88,0x13,0x00,
330. 0x00,0x00,0x00,0x20,0x00,0x4c,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x2d,0x00,0x5c,
331. 0x50,0x49,0x50,0x45,0x5c,0x4c,0x41,0x4e,0x4d,0x41,0x4e,0x00,0x68,0x00,0x57,0x72,
332. 0x4c,0x65,0x68,0x44,0x7a,0x00,0x42,0x31,0x36,0x42,0x42,0x44,0x7a,0x00,0x01,0x00,
333. 0x00,0x10,0x00,0x00,0x00,0x80,0x45,0x53,0x43,0x4f,0x4d,0x00,0x00,0xac,0x97,0x6d}, //trama20
334. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x04,0xf0,0xf1,
335. 0x01,0x0a,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
336. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
337. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xfb,0x97,0x6d}, //trama21
338. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x04,0xf0,0xf1,
339. 0x01,0x0a,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
340. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
341. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x4a,0x98,0x6d}, //trama22
342. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x12,0xf0,0xf0,
343. 0x0a,0x0b,0x0e,0x00,0xff,0xef,0x14,0x00,0x00,0x00,0x28,0x00,0x00,0x00,0x7f,0x23,
344. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
345. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x01,0x99,0x98,0x6d}, //trama23
346. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x04,0xf0,0xf1,
347. 0x01,0x0d,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
348. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
349. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x45,0x99,0x6d}, //trama24
350. {0x03,0x00,0x00,0x00,0x00,0x01,0x00,0x04,0xac,0x44,0x4d,0x02,0x00,0x8b,0xf0,0xf0,
351. 0x03,0x2c,0x00,0xff,0xef,0x08,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x42,0x34,0x20,
352. 0x20,0x20,0x20,0x20,0x20,0x20,0x20,0x20,0x20,0x20,0x20,0x20,0x1b,0x49,0x42,0x4d,
353. 0x53,0x45,0x52,0x56,0x45,0x52,0x20,0x20,0x20,0x20,0x20,0x20,0x00,0xff,0x53,0x4d,
354. 0x42,0x25,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
355. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x11,0x00,0x00,
356. 0x06,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xe8,0x03,0x00,0x00,0x00,0x00,
357. 0x00,0x00,0x00,0x00,0x06,0x00,0x56,0x00,0x03,0x00,0x01,0x00,0x01,0x00,0x02,0x00,
358. 0x17,0x00,0x5c,0x4d,0x41,0x49,0x4c,0x53,0x4c,0x4f,0x54,0x5c,0x42,0x52,0x4f,0x57,
359. 0x53,0x45,0x00,0x09,0x04,0x33,0x17,0x00,0x00,0x00,0x9b,0x99,0x6d,0x86,0x99,0x98}, //trama25
360. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x35,0xf0,0xf0,
361. 0x0c,0x0a,0x0e,0x00,0xff,0xef,0x16,0x04,0x00,0x00,0x00,0x00,0x28,0x00,0x7f,0x23,
362. 0xff,0x53,0x4d,0x42,0x71,0x00,0x00,0x00,0x00,0x00,0x01,0x00,0x00,0x00,0x00,0x00,
363. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x03,0xc0,0x00,0x00,0x00,0x00,0x01,0x50,
364. 0x00,0x00,0x00,0x45,0xf1,0x99,0x6d,0x86,0x45,0x99,0x6d,0x86,0x1f,0x09,0x52,0x5b}, //trama26
365. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x35,0xf0,0xf0,
366. 0x0a,0x0e,0x0e,0x00,0xff,0xef,0x16,0x0c,0x00,0x00,0x28,0x00,0x28,0x00,0x23,0x7f,
367. 0xff,0x53,0x4d,0x42,0x71,0x00,0x00,0x00,0x00,0x80,0x01,0x00,0x00,0x00,0x00,0x00,
368. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x03,0xc0,0x00,0x00,0x00,0x00,0x01,0x50,
369. 0x00,0x00,0x00,0x00,0x40,0x9a,0x6d,0x86,0x9b,0x99,0x6d,0x86,0x20,0x09,0x75,0x5b}, //trama27
370. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x12,0xf0,0xf0,
371. 0x0e,0x0d,0x0e,0x00,0xff,0xef,0x14,0x00,0x00,0x00,0x28,0x00,0x00,0x00,0x7f,0x23,
372. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
373. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x8f,0x9a,0x6d}, //trama28
374. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x04,0xf0,0xf1,
375. 0x01,0x11,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
376. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
377. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xde,0x9a,0x6d}, //trama29
378. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x12,0xf0,0xf0,
379. 0x10,0x0d,0x0e,0x00,0xff,0xef,0x18,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x7f,0x23,
380. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
381. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x2d,0x9b,0x6d}, //trama30
382. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x04,0xf0,0xf1,
383. 0x01,0x13,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
384. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
385. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x7c,0x9b,0x6d}, //trama31
386. {0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x03,0xf0,0xf0,
387. 0x53,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
388. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
389. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xcb,0x9b,0x6d}, //trama32
390. {0x00,0x02,0xb3,0x9c,0xdf,0x1b,0x00,0x02,0xb3,0x9c,0xae,0xba,0x00,0x03,0xf0,0xf1,
391. 0x73,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
392. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
393. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x77,0x9c,0x6d}, //trama33
394. {0xff,0xff,0xff,0xff,0xff,0xff,0x00,0x23,0x8b,0x46,0xe9,0xad,0x08,0x06,0x00,0x04,
395. 0x08,0x00,0x06,0x04,0x00,0x01,0x00,0x23,0x8b,0x46,0xe9,0xad,0x94,0xcc,0x39,0xcb,
396. 0x00,0x00,0x00,0x00,0x00,0x00,0x94,0xcc,0x39,0xfe},                               //TramaA
397. {0x00,0x23,0x8b,0x46,0xe9,0xad,0x00,0x1f,0x45,0x9d,0x1e,0xa2,0x08,0x06,0x00,0x01,
398. 0x08,0x00,0x06,0x04,0x00,0x02,0x00,0x1f,0x45,0x9d,0x1e,0xa2,0x94,0xcc,0x39,0xfe,
399. 0x00,0x23,0x8b,0x46,0xe9,0xad,0x94,0xcc,0x39,0xcb,0x00,0x00,0x00,0x00,0x00,0x00,
400. 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00},                     //TramaB
401. {0x00,0x1f,0x45,0x9d,0x1e,0xa2,0x00,0x23,0x8b,0x46,0xe9,0xad,0x08,0x00,0x46,0x00,
402. 0x80,0x42,0x04,0x55,0x34,0x11,0x80,0x11,0x6b,0xf0,0x94,0xcc,0x39,0xcb,0x94,0xcc,
403. 0x67,0x02,0xaa,0xbb,0xcc,0xdd,0x04,0x0c,0x00,0x35,0x00,0x2e,0x85,0x7c,0xe2,0x1a,
404. 0x01,0x00,0x00,0x01,0x00,0x00,0x00,0x00,0x00,0x00,0x03,0x77,0x77,0x77,0x03,0x69,
405. 0x73,0x63,0x05,0x65,0x73,0x63,0x6f,0x6d,0x03,0x69,0x70,0x6e,0x02,0x6d,0x78,0x00,
406. 0x00,0x1c,0x00,0x01},                                                             //TramaC
407. {0x00,0x1f,0x45,0x9d,0x1e,0xa2,0x00,0x23,0x8b,0x46,0xe9,0xad,0x08,0x00,0x45,0x10,
408. 0x00,0x3c,0x04,0x57,0x00,0x00,0x80,0x01,0x98,0x25,0x94,0xcc,0x39,0xcb,0x94,0xcc,
409. 0x3a,0xe1,0x08,0x00,0x49,0x5c,0x03,0x00,0x01,0x00,0x61,0x62,0x63,0x64,0x65,0x66,
410. 0x67,0x68,0x69,0x6a,0x6b,0x6c,0x6d,0x6e,0x6f,0x70,0x71,0x72,0x73,0x74,0x75,0x76,
411. 0x77,0x61,0x62,0x63,0x64,0x65,0x66,0x67,0x68,0x69},                               //TramaD
412. {0x00,0x1f,0x45,0x9d,0x1e,0xa2,0x00,0x23,0x8b,0x46,0xe9,0xad,0x08,0x00,0x46,0x08,
413. 0x80,0x42,0x04,0x55,0x34,0x11,0x80,0x11,0x6b,0xf0,0x94,0xcc,0x39,0xcb,0x94,0xcc,
414. 0x67,0x02,0xaa,0xbb,0xcc,0xdd,0x04,0x0c,0x00,0x35,0x00,0x2e,0x85,0x7c,0xe2,0x1a,
415. 0x01,0x00,0x00,0x01,0x00,0x00,0x00,0x00,0x00,0x00,0x03,0x77,0x77,0x77,0x03,0x69,
416. 0x73,0x63,0x05,0x65,0x73,0x63,0x6f,0x6d,0x03,0x69,0x70,0x6e,0x02,0x6d,0x78,0x00,
417. 0x00,0x1c,0x00,0x01},                                                             //TramaE
418. {0x02,0xFF,0x53,0xC3,0xE9,0xAB,0x00,0xFF,0x66,0x7F,0xD4,0x3C,0x08,0x00,0x45,0x02,
419. 0x00,0x30,0x2C,0x00,0x40,0x00,0x80,0x06,0x4B,0x74,0xC0,0xA8,0x01,0x02,0xC0,0xA8,
420. 0x01,0x01,0x04,0x03,0x00,0x15,0x00,0x3B,0xCF,0x44,0x00,0x00,0x00,0x00,0x70,0x02,
421. 0x20,0x00,0x0C,0x34,0x00,0x00,0x02,0x04,0x05,0xB4,0x01,0x01,0x04,0x02}};          //TramaF
422. printf("Castro Cruces Jorge Eduardo\n\n");
423. **for**(i=0; i<39; i++)
424. Analizador(Trama[i], i);
425. **return** 0;
426. }





















