

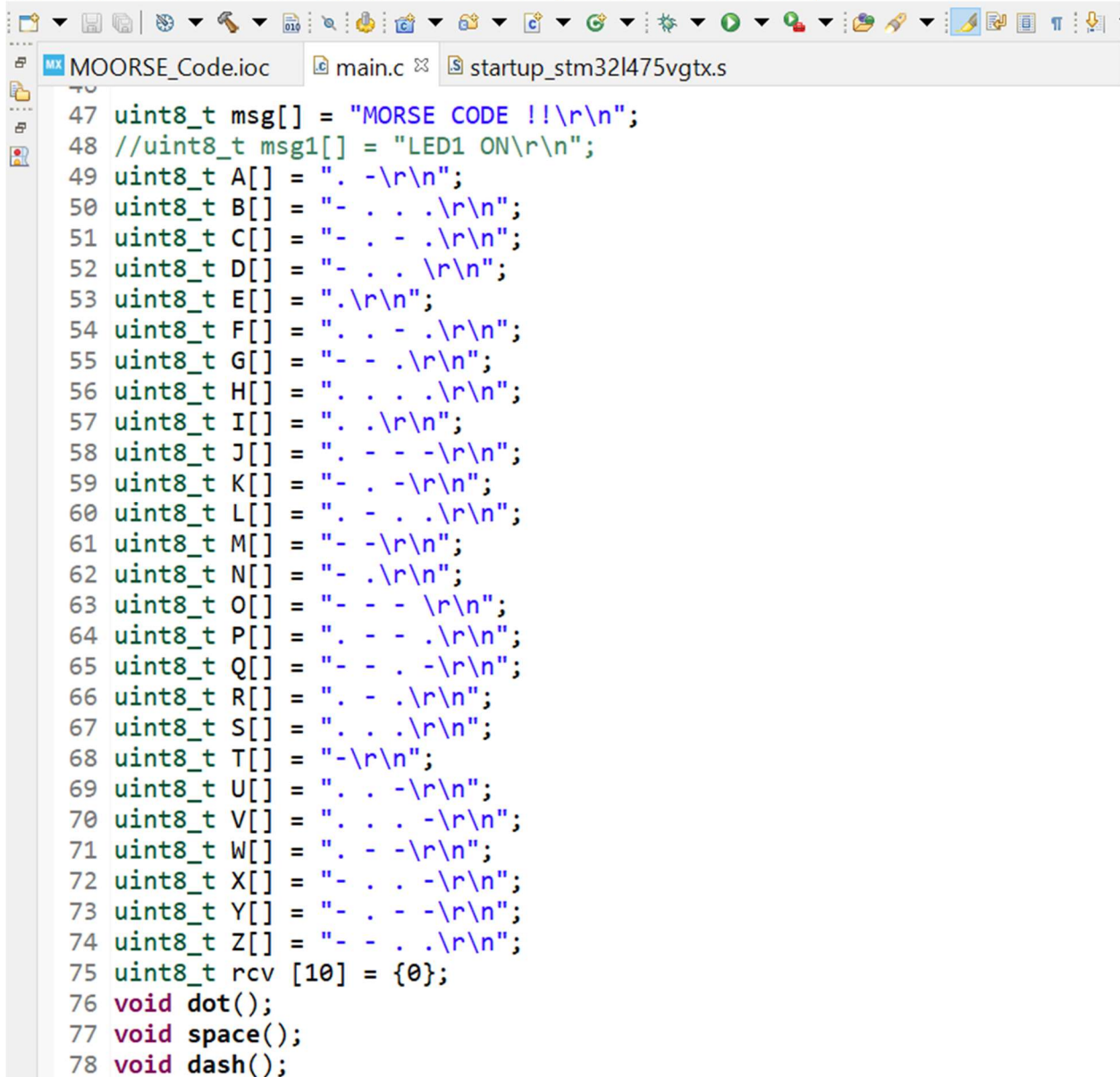
MCU Assignment-5

Morse Code LED Indicator

CODE :

IDE workspace_1.7.0 - MOORSE_Code/Core/Src/main.c - STM32CubeIDE

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```
47 uint8_t msg[] = "MORSE CODE !!\r\n";
48 //uint8_t msg1[] = "LED1 ON\r\n";
49 uint8_t A[] = ". -\r\n";
50 uint8_t B[] = "- . . .\r\n";
51 uint8_t C[] = "- . - .\r\n";
52 uint8_t D[] = "- . . \r\n";
53 uint8_t E[] = ".\r\n";
54 uint8_t F[] = ". . - .\r\n";
55 uint8_t G[] = "- - .\r\n";
56 uint8_t H[] = ". . . .\r\n";
57 uint8_t I[] = ". .\r\n";
58 uint8_t J[] = ". - - -\r\n";
59 uint8_t K[] = "- . -\r\n";
60 uint8_t L[] = ". - . .\r\n";
61 uint8_t M[] = "- -\r\n";
62 uint8_t N[] = "- .\r\n";
63 uint8_t O[] = "- - - \r\n";
64 uint8_t P[] = ". - - .\r\n";
65 uint8_t Q[] = "- - . -\r\n";
66 uint8_t R[] = ". - .\r\n";
67 uint8_t S[] = ". . .\r\n";
68 uint8_t T[] = "-\r\n";
69 uint8_t U[] = ". . -\r\n";
70 uint8_t V[] = ". . . -\r\n";
71 uint8_t W[] = ". - -\r\n";
72 uint8_t X[] = "- . . -\r\n";
73 uint8_t Y[] = "- . - -\r\n";
74 uint8_t Z[] = "- - . .\r\n";
75 uint8_t rcv [10] = {0};
76 void dot();
77 void space();
78 void dash();
```

IDE workspace_1.7.0 - MOORSE_Code/Core/Src/main.c - STM32CubeIDE

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```
MOORSE_Code.ioc  main.c  startup_stm32l475vgtx.s
134 while (1)
135 {
136     /* USER CODE END WHILE */
137
138     HAL_UART_Receive(&huart1, rcv, 10, 10000);
139     if(*rcv=='A')
140     {
141         dot();
142         space();
143         dash();
144         HAL_UART_Transmit(&huart1, A, sizeof(A), 10000);
145     }
146     if(*rcv=='B')
147     {
148         dash();space();dot();space();dot();space();dot();
149         HAL_UART_Transmit(&huart1, B, sizeof(B), 10000);
150     }
151     if(*rcv=='C')
152     {
153         dash();space();dot();space();dash();space();dot();
154
155         HAL_UART_Transmit(&huart1, C, sizeof(C), 10000);
156     }
157     if(*rcv=='D')
158     {
159         dash();space();dot();space();dot();space();
160         HAL_UART_Transmit(&huart1, D, sizeof(D), 10000);
161     }
162     if(*rcv=='E')
163     {
164         dot();
165         HAL_UART_Transmit(&huart1, E, sizeof(E), 10000);
166     }
167 }
```

```
MOORSE_Code.ioc  main.c  startup_stm32l475vgtx.s

168     {
169         dot();space();dot();space();dash();space();dot();
170         HAL_UART_Transmit(&huart1, F, sizeof(F), 10000);
171     }
172     if(*rcv=='G')
173     {
174         dash();space();dash();space();dot();
175         HAL_UART_Transmit(&huart1, G, sizeof(G), 10000);
176     }
177     if(*rcv=='H')
178     {
179         dot();space();dot();space();dot();space();dot();
180         HAL_UART_Transmit(&huart1, H, sizeof(H), 10000);
181     }
182     if(*rcv=='I')
183     {
184         dot();space();dot();
185
186         HAL_UART_Transmit(&huart1, I, sizeof(I), 10000);
187     }
188     if(*rcv=='J')
189     {
190         dot();space();dash();space();dash();space();dash();
191         HAL_UART_Transmit(&huart1, J, sizeof(J), 10000);
192     }
193     if(*rcv=='K')
194     {
195         dash();space();dot();space();dash();
196         HAL_UART_Transmit(&huart1, K, sizeof(K), 10000);
197     }
198     if(*rcv=='L')
199     {
200         dot();space();dash();space();dot();space();dot();
201
202         HAL_UART_Transmit(&huart1, L, sizeof(L), 10000);
203     }
204     ...
205 }
```

IDE workspace_1.7.0 - MOORSE_Code/Core/Src/main.c - STM32CubeIDE

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MOORSE_Code.ioc main.c startup_stm32l475vgtx.s

```
2003
2004     if(*rcv=='M')
2005     {
2006         dash();space();dash();
2007         HAL_UART_Transmit(&huart1, M, sizeof(M), 10000);
2008     }
2009     if(*rcv=='N')
2010     {
2011         dash();space();dot();
2012         HAL_UART_Transmit(&huart1, N, sizeof(N), 10000);
2013     }
2014     if(*rcv=='O')
2015     {
2016         dash();space();dash();space();dash();space();
2017         HAL_UART_Transmit(&huart1, O, sizeof(O), 10000);
2018     }
2019     if(*rcv=='P')
2020     {
2021         dot();space();dash();space();dash();space();dot();
2022         HAL_UART_Transmit(&huart1, P, sizeof(P), 10000);
2023     }
2024     if(*rcv=='Q')
2025     {
2026         dash();space();dash();space();dot();space();dash();
2027         HAL_UART_Transmit(&huart1, Q, sizeof(Q), 10000);
2028     }
2029     if(*rcv=='R')
2030     {
2031         dot();space();dash();space();dot();
2032         HAL_UART_Transmit(&huart1, R, sizeof(R), 10000);
2033     }
2034     if(*rcv=='S')
2035     {
2036         dot();space();dot();space();dot();
2037         HAL_UART_Transmit(&huart1, S, sizeof(S), 10000);
2038     }
```

```

IDE workspace_1.7.0 - MOORSE_Code/Core/Src/main.c - STM32CubeIDE
File Edit Source Refactor Navigate Search Project Run Window Help
MOORSE_Code.ioc main.c startup_stm32l475vgtx.s
242 HAL_UART_Transmit(&huart1, T, sizeof(T), 10000);
243 }
244 if(*rcv=='U')
245 {
246     dot();space();dot();space();dash();
247     HAL_UART_Transmit(&huart1, U, sizeof(U), 10000);
248 }
249 if(*rcv=='V')
250 {
251     dot();space();dot();space();dot();space();dash();
252     HAL_UART_Transmit(&huart1, V, sizeof(V), 10000);
253 }
254 if(*rcv=='W')
255 {
256     dot();space();dash();space();dash();
257     HAL_UART_Transmit(&huart1, W, sizeof(W), 10000);
258 }
259 if(*rcv=='X')
260 {
261     dash();space();dot();space();dot();space();dash();
262     HAL_UART_Transmit(&huart1, X, sizeof(X), 10000);
263 }
264 if(*rcv=='Y')
265 {
266     dash();space();dot();space();dash();space();dash();
267     HAL_UART_Transmit(&huart1, Y, sizeof(Y), 10000);
268 }
269 if(*rcv=='Z')
270 {
271     dash();space();dash();space();dot();space();dot();
272     HAL_UART_Transmit(&huart1, Z, sizeof(Z), 10000);
273 }
274 }
275
276 /* USER CODE BEGIN 3 */

```

OUTPUT:

```

COM5 - Tera Term VT
File Edit Setup Control Window Help
MORSE CODE !!
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 - - -

```


HARDWARE OUTPUT:

