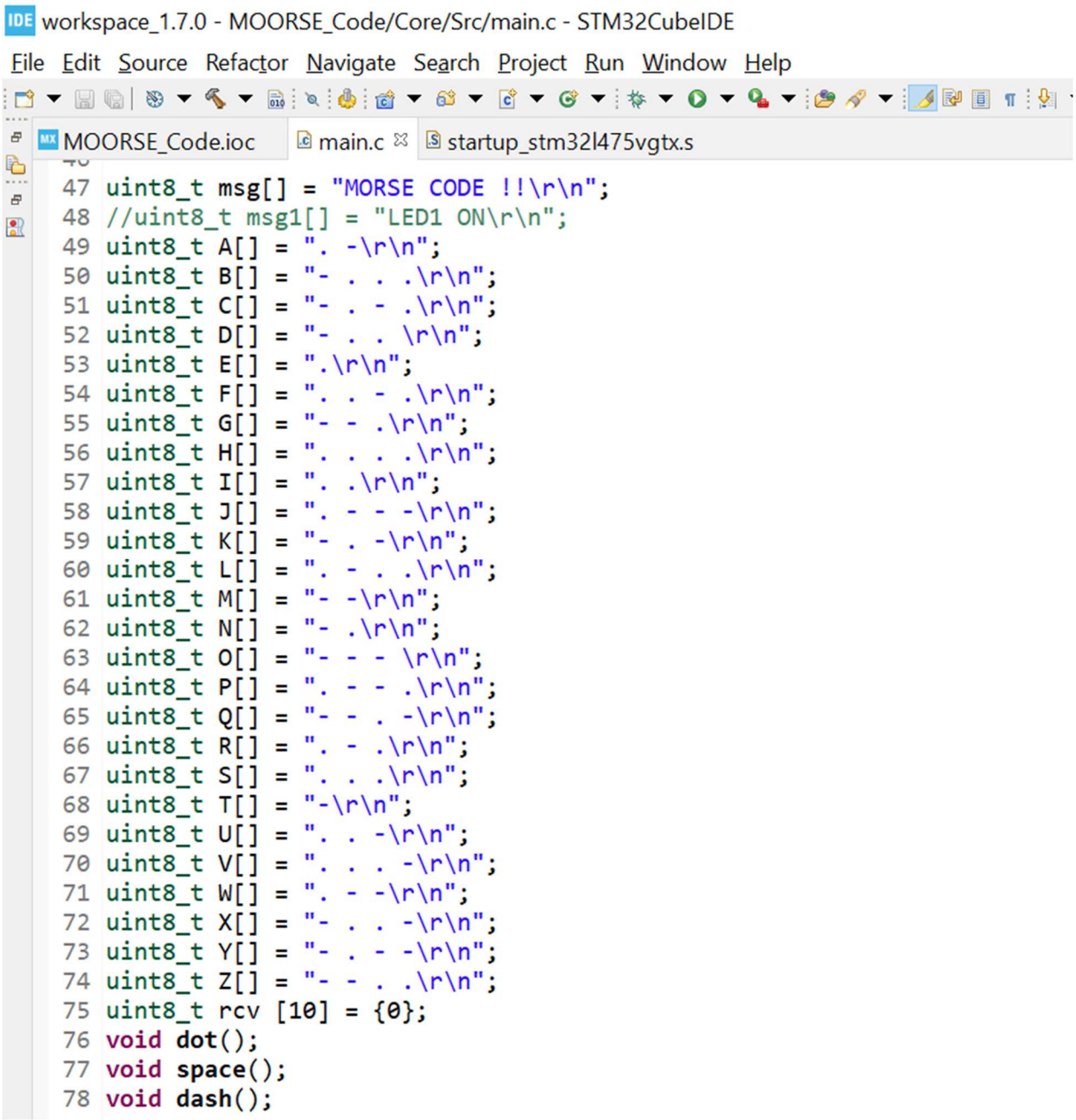
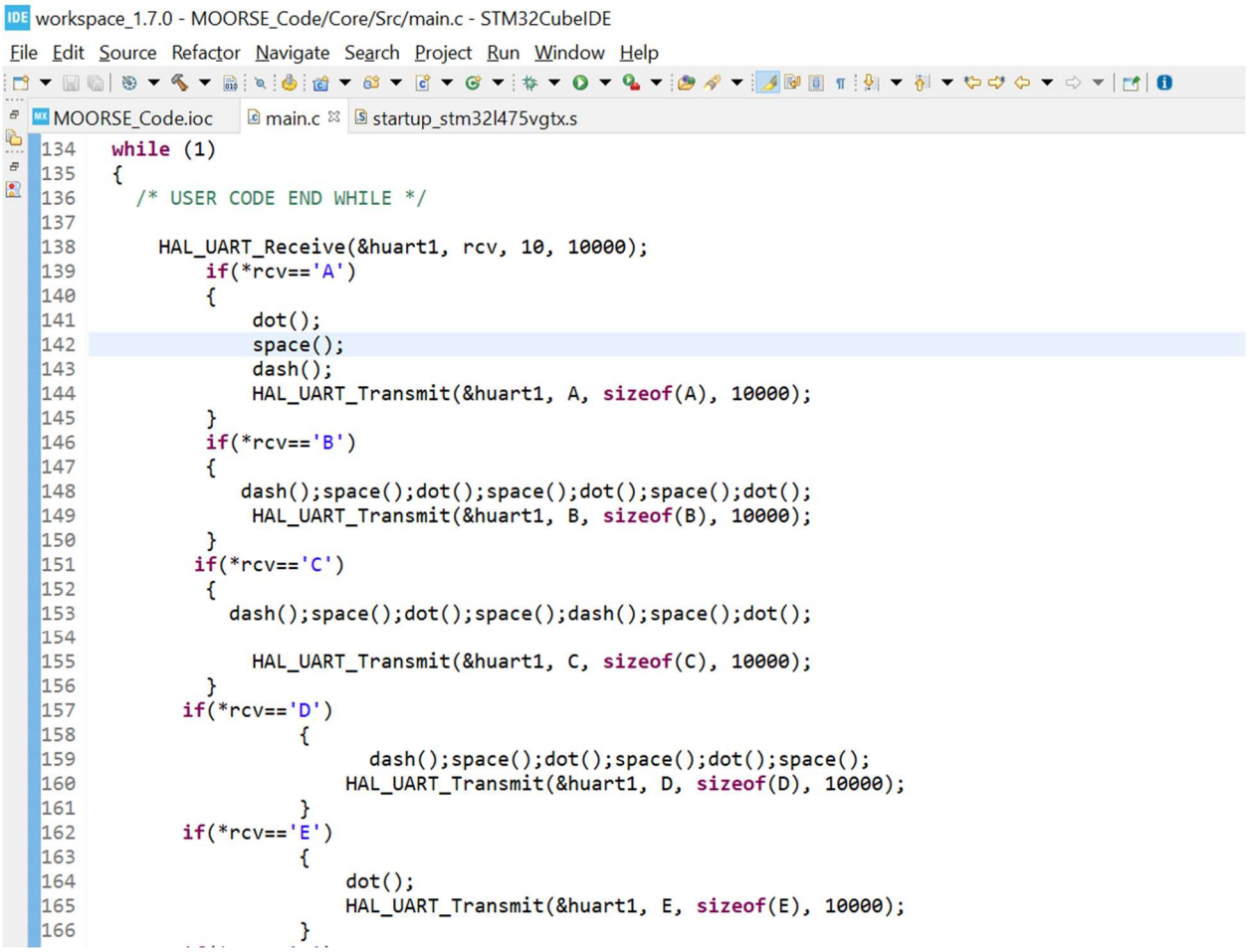
MCU Assignment-5

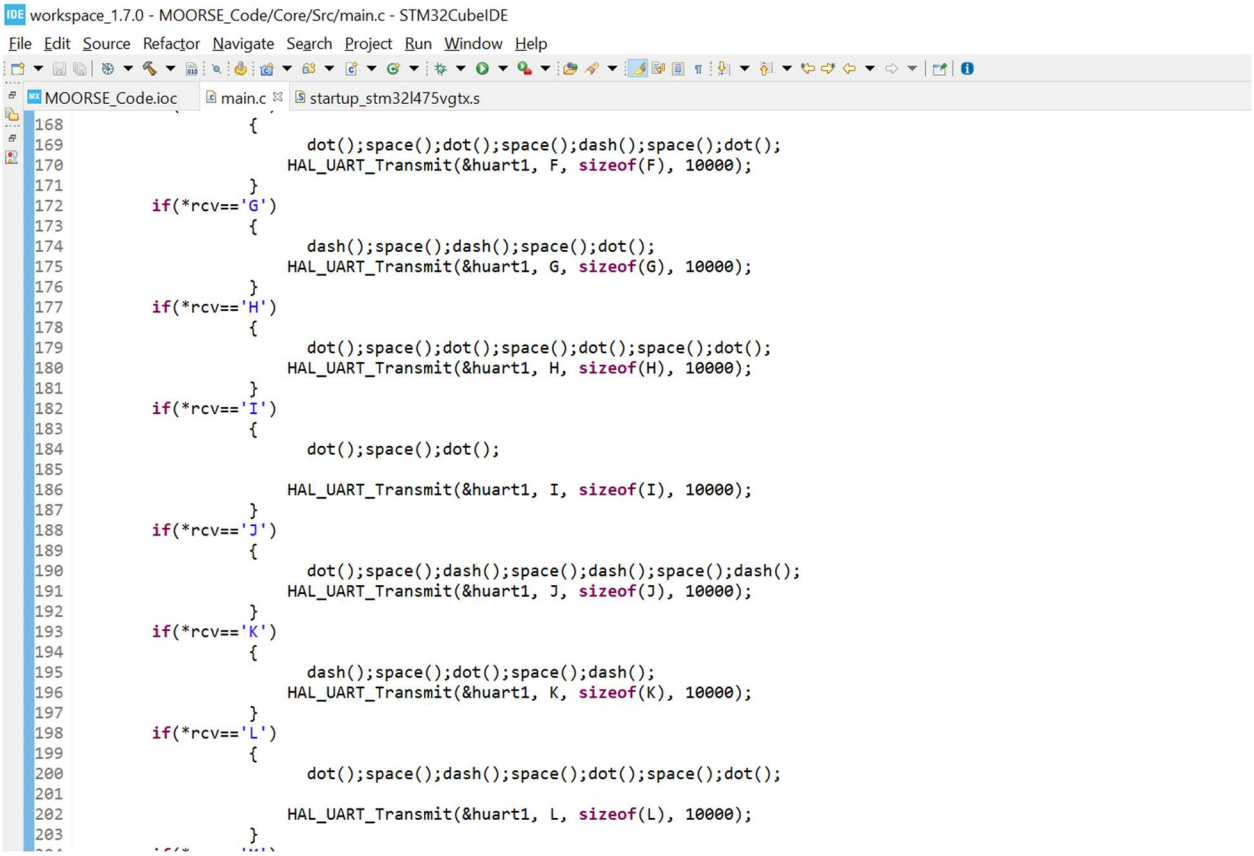
Morse Code LED Indicator

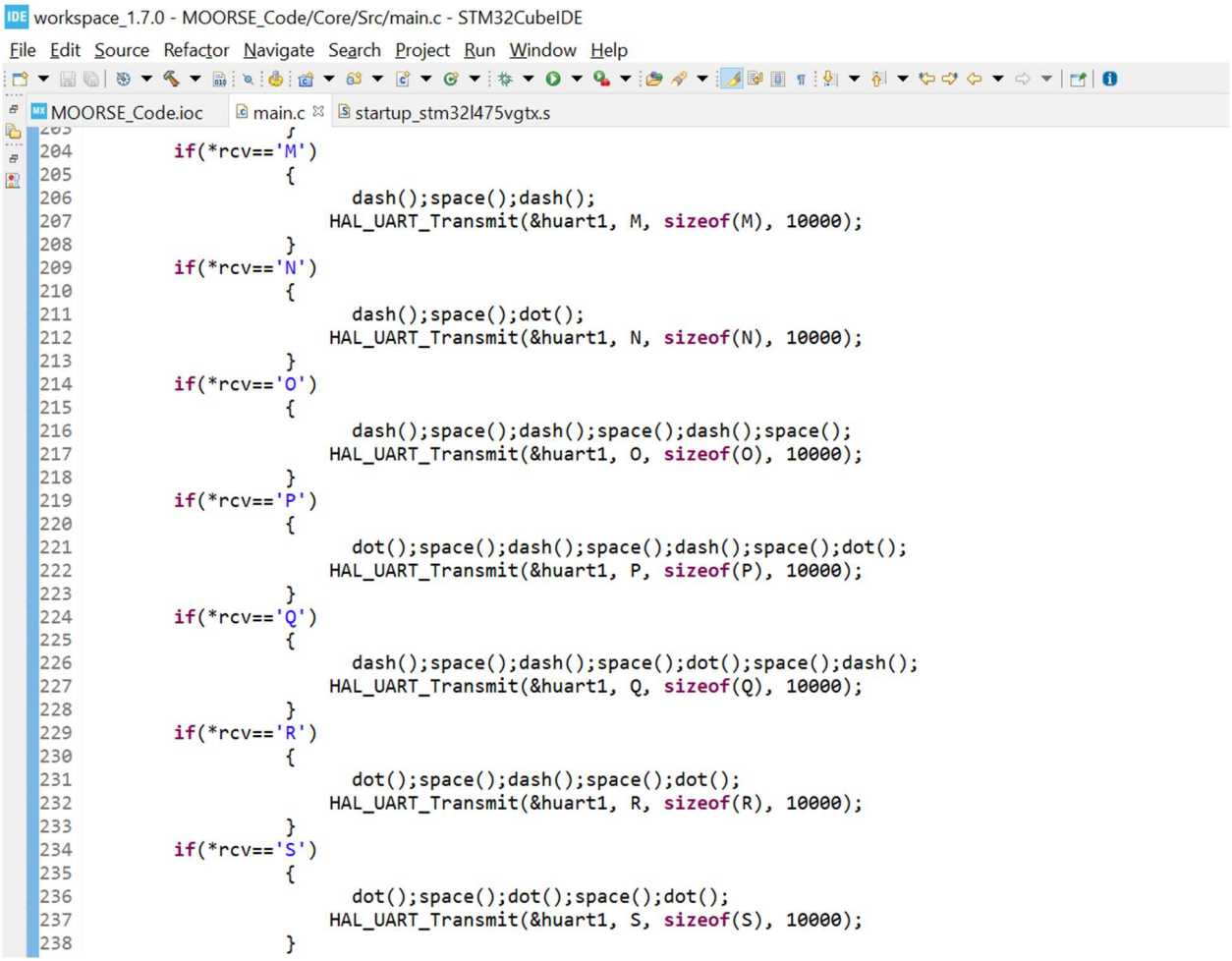
CODE :




```
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();
```


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
while (1)
{
/* USER CODE END WHILE */
HAL_UART_Receive(&huart1, rcv, 10, 10000);
if(*rcv=='A')
{
dot();
space();
dash();
HAL_UART_Transmit(&huart1, A, sizeof(A), 10000);
}
if(*rcv=='B')
{
dash();space();dot();space();dot();space();dot();
HAL_UART_Transmit(&huart1, B, sizeof(B), 10000);
}
if(*rcv=='C')
{
dash();space();dot();space();dash();space();dot();
HAL_UART_Transmit(&huart1, C, sizeof(C), 10000);
}
if(*rcv=='D')
{
dash();space();dot();space();dot();space();
HAL_UART_Transmit(&huart1, D, sizeof(D), 10000);
}
if(*rcv=='E')
{
dot();
HAL_UART_Transmit(&huart1, E, sizeof(E), 10000);
}


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
{
dot();space();dot();space();dash();space();dot();
HAL_UART_Transmit(&huart1, F, sizeof(F), 10000);
}
if(*rcv=='G')
{
dash();space();dash();space();dot();
HAL_UART_Transmit(&huart1, G, sizeof(G), 10000);
}
if(*rcv=='H')
{
dot();space();dot();space();dot();space();dot();
HAL_UART_Transmit(&huart1, H, sizeof(H), 10000);
}
if(*rcv=='I')
{
dot();space();dot();
HAL_UART_Transmit(&huart1, I, sizeof(I), 10000);
}
if(*rcv=='J')
{
dot();space();dash();space();dash();space();dash();
HAL_UART_Transmit(&huart1, J, sizeof(J), 10000);
}
if(*rcv=='K')
{
dash();space();dot();space();dash();
HAL_UART_Transmit(&huart1, K, sizeof(K), 10000);
}
if(*rcv=='L')
{
dot();space();dash();space();dot();space();dot();
HAL_UART_Transmit(&huart1, L, sizeof(L), 10000);
}


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
}
if(*rcv=='M')
{
dash();space();dash();
HAL_UART_Transmit(&huart1, M, sizeof(M), 10000);
}
if(*rcv=='N')
{
dash();space();dot();
HAL_UART_Transmit(&huart1, N, sizeof(N), 10000);
}
if(*rcv=='O')
{
dash();space();dash();space();dash();space();
HAL_UART_Transmit(&huart1, O, sizeof(O), 10000);
}
if(*rcv=='P')
{
dot();space();dash();space();dash();space();dot();
HAL_UART_Transmit(&huart1, P, sizeof(P), 10000);
}
if(*rcv=='Q')
{
dash();space();dash();space();dot();space();dash();
HAL_UART_Transmit(&huart1, Q, sizeof(Q), 10000);
}
if(*rcv=='R')
{
dot();space();dash();space();dot();
HAL_UART_Transmit(&huart1, R, sizeof(R), 10000);
}
if(*rcv=='S')
{
dot();space();dot();space();dot();
HAL_UART_Transmit(&huart1, S, sizeof(S), 10000);
}

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

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MOORSE_Code.ioc | main.c | startup_stm32l475vgtx.s

```
242
243                         HAL_UART_Transmit(&huart1, T, sizeof(T), 10000);
244                     }
245             if(*rcv=='U')
246                     {
247                       dot();space();dot();space();dash();
248                         HAL_UART_Transmit(&huart1, U, sizeof(U), 10000);
249                     }
250             if(*rcv=='V')
251                     {
252                       dot();space();dot();space();dot();space();dash();
253                         HAL_UART_Transmit(&huart1, V, sizeof(V), 10000);
254                     }
255             if(*rcv=='W')
256                     {
257                       dot();space();dash();space();dash();
258                         HAL_UART_Transmit(&huart1, W, sizeof(W), 10000);
259                     }
260             if(*rcv=='X')
261                     {
262                       dash();space();dot();space();dot();space();dash();
263                         HAL_UART_Transmit(&huart1, X, sizeof(X), 10000);
264                     }
265             if(*rcv=='Y')
266                     {
267                       dash();space();dot();space();dash();space();dash();
268                         HAL_UART_Transmit(&huart1, Y, sizeof(Y), 10000);
269                     }
270             if(*rcv=='Z')
271                     {
272                       dash();space();dash();space();dot();space();dot();
273                         HAL_UART_Transmit(&huart1, Z, sizeof(Z), 10000);
274                     }
275
276     /* USER CODE BEGIN 3 */
```

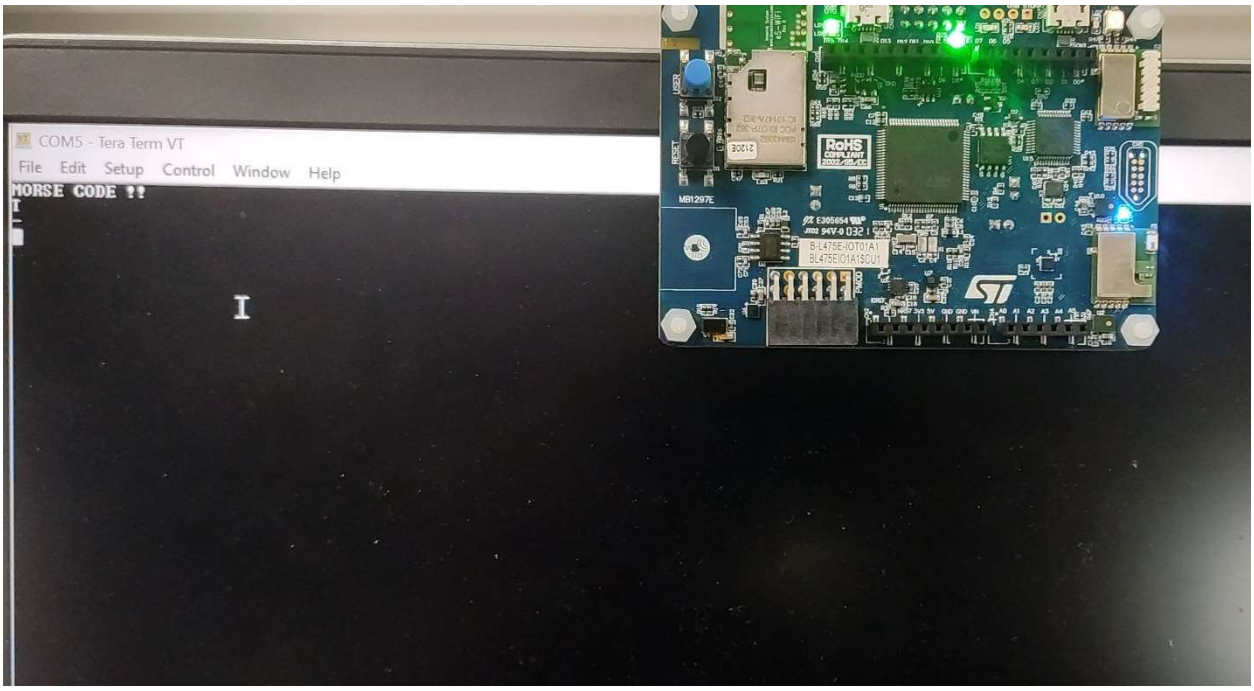
OUTPUT :

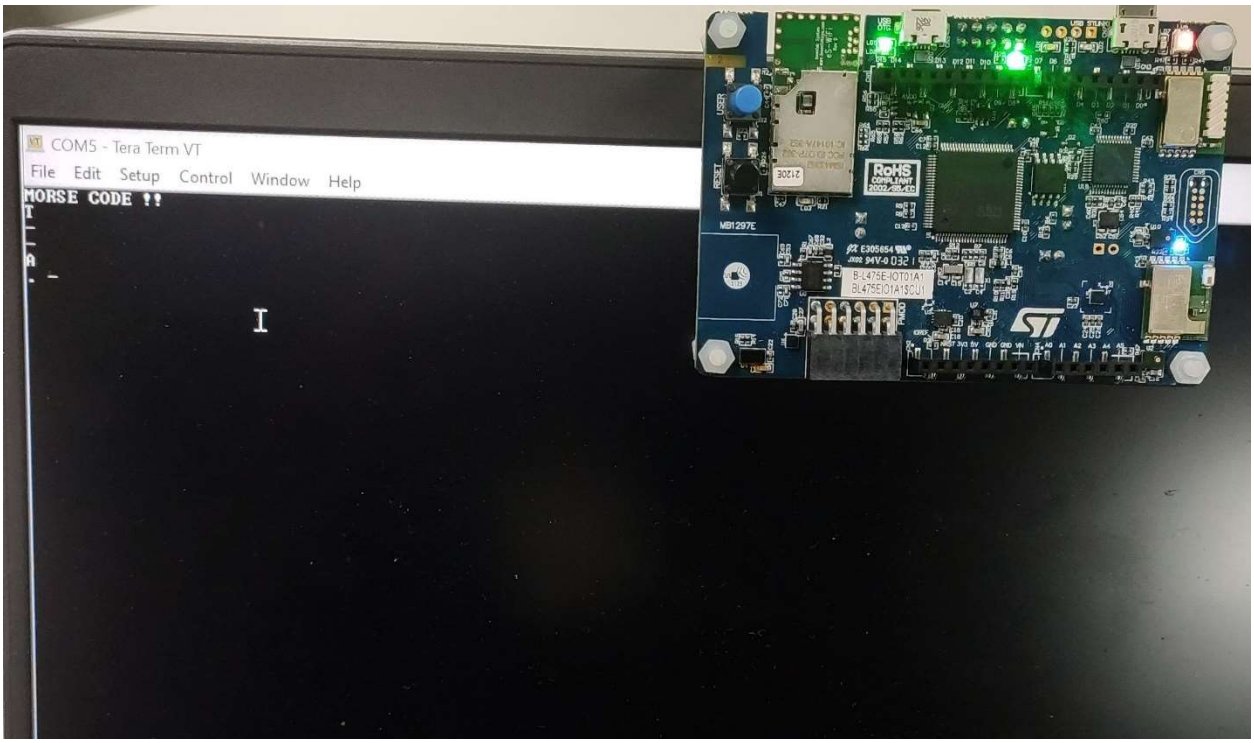
COM5 - Tera Term VT

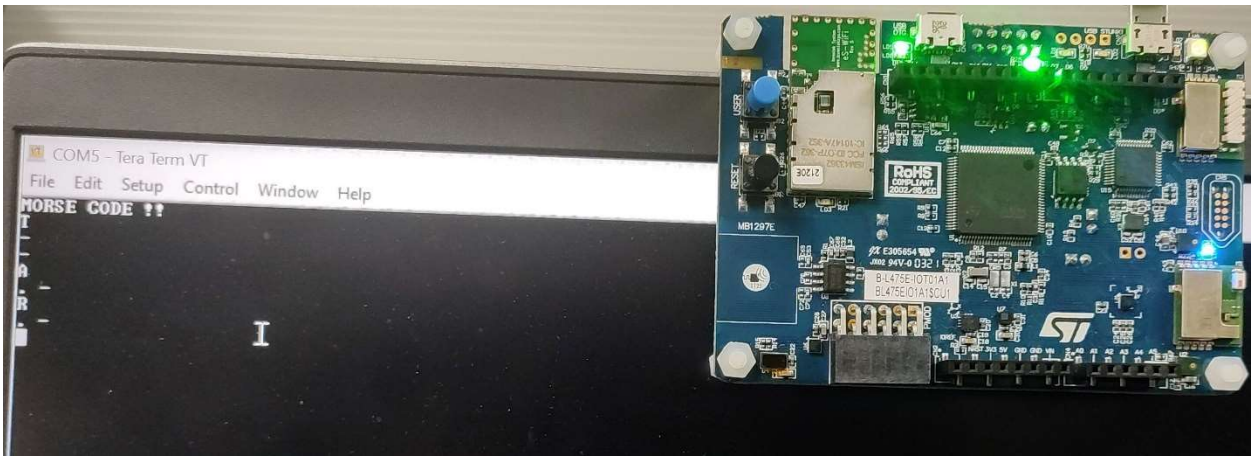
File Edit Setup Control Window Help

```
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:






COM5 - Tera Term VT
File Edit Setup Control Window Help
MORSE CODE !!
I
L
O
V
E
U
MB1297E


COM5 - Tera Term VT
File Edit Setup Control Window Help
MORSE CODE !!
I
L
O
V
E
U
MB1297E