```
#define LED 11

char* morseCode[] = {".-", "-...", "-.-.", "-..", "", "..-.", "--.", "....", "..", ".---", "-.-", ".-..", "--", "-.", "---", ".--.", "--.-", ".-.", "...", "-", "..-", "...-", ".--", "-..-", "-.--", "--..", ".-", "-...", "-.-.", "-..", ".", "..-.", "--.", "....", "..", ".---", "-.-", ".-..", "--", "-.", "---", ".--.", "--.-", ".-.", "...", "-", "..-", "...-", ".--", "-..-", "-.--", "--..", ".----", "..---", "...--", "....-", ".....", "-....", "--...", "---..", "----."};

const int Time=300;

void Dot();

void Dash();

void LetterSpace();

void WordSpace();

void morseAnalysis(char character);

void setup()

{

  pinMode(LED, OUTPUT);

  Serial.begin(9600);

}

void loop()

{if(Serial.available()>0){

  String input=Serial.readString();

  for(int i=0; i<input.length();i++){

  char character=input.charAt(i);

    morseAnalysis(character);

   if(character !=' ')//ensuring that each letter, number, and space is transmitted with the appropriate pauses between elements and words

     LetterSpace();

  }

 }

}

void Dot()

{digitalWrite(LED,HIGH);

 delay(Time);

 digitalWrite(LED,LOW);

 delay(Time);

}

void Dash()

 {int Delaytime=3*Time;

  digitalWrite(LED,HIGH);
```

```
 delay(Delaytime);
 digitalWrite(LED,LOW);
  delay(Time);
}
void LetterSpace()
 {int Delaytime=3*Time;
 delay(Delaytime);
}
void WordSpace()
 {int Delaytime=7*Time;
 delay(Delaytime);
}
void morseAnalysis(char character){
if(character >='A'|| character<= 'Z')
{  char* morse=morseCode[character-'A'];
  for(int i=0;i<strlen(morse);i++)
  {
   if(morse[i]=='.')
     Dot();
    else if(morse[i]=='-')
      Dash();
  }
 }
  else if(character >= 'a' && character <= 'z')
  { char* morse=morseCode[26+(character-'a')];
    for(int i=0;i<strlen(morse);i++)
    {
     if(morse[i]=='.')
       Dot();
    else if(morse[i]=='-')
      Dash();
    }
  }
  else if(character >= '0' && character <= '9')
  { char* morse=morseCode[52+(character-'0')];
```

```
   for(int i=0;i<strlen(morse);i++)
   {
    if(morse[i]=='.')
      Dot();
   else if(morse[i]=='-')
     Dash();
   }
  }
  else if(character == ' ')
   WordSpace();
}
```