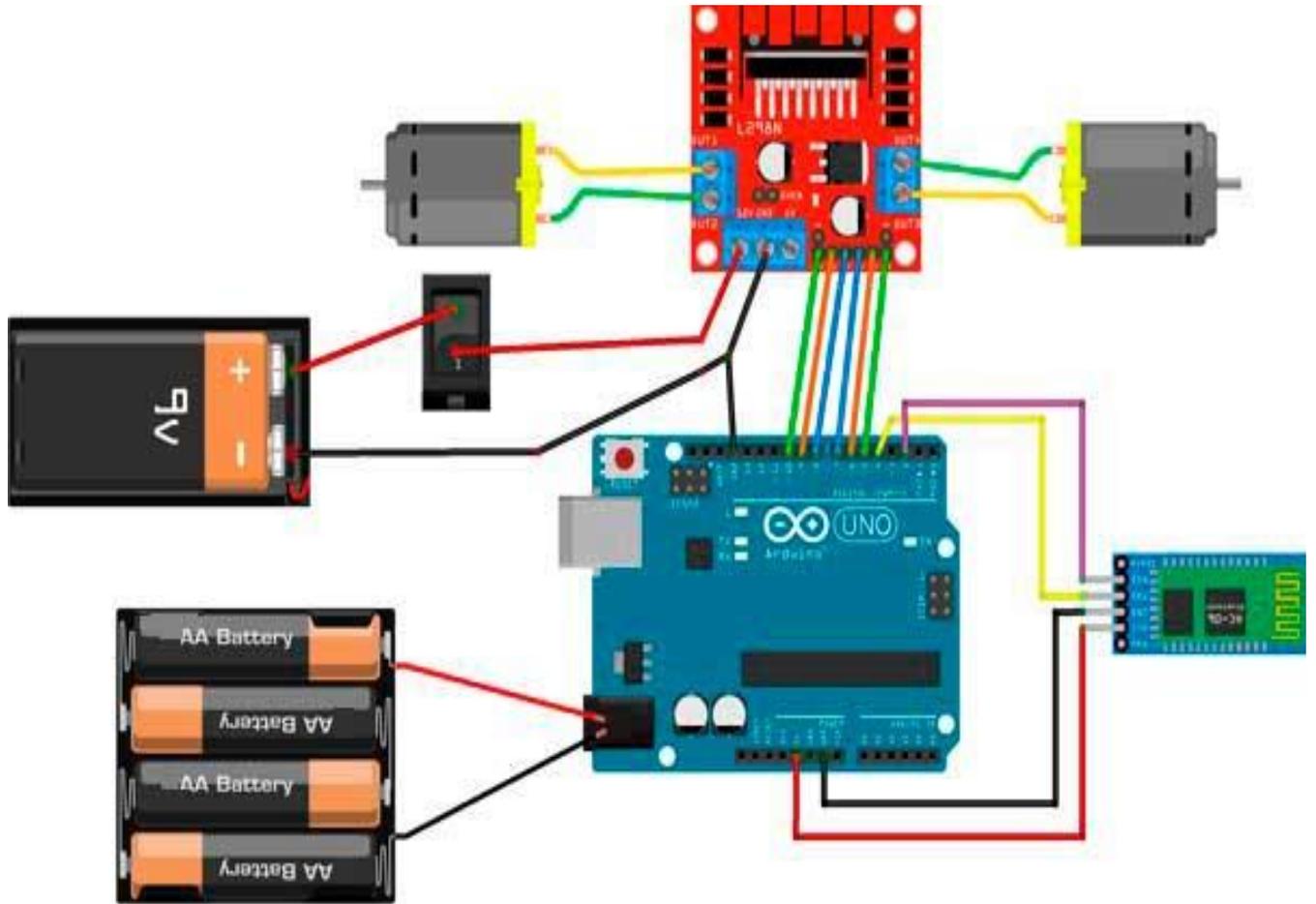


برنامج الروبوت المتحرك والمتحكم به بواسطة ال: Bluetooth



Arduino Code:

```
#include <SoftwareSerial.h>
#include <Wire.h>
#include <SoftwareSerial.h>
double angle_rad = PI/180.0;
double angle_deg = 180.0/PI;

SoftwareSerial hc06(4,2);
String cmd="";
// Moteur 1
```

```

//int ENA = 10;
int IN1 = 9;
int IN2 = 8;

// Moteur 2
//int ENB = 5;
int IN3 = 7;
int IN4 = 6;

void setup() {
  Serial.begin(9600);
  hc06.begin(9600);

  // pinMode (ENA, OUTPUT);
  // pinMode (ENB, OUTPUT);
  pinMode (IN1, OUTPUT);
  pinMode (IN2, OUTPUT);
  pinMode (IN3, OUTPUT);
  pinMode (IN4, OUTPUT);
}

void loop() {
  while(hc06.available(>0){
  cmd+=(char)hc06.read();
  }

  //Select function with cmd
  if(cmd!=""){
  Serial.print("Command recieved : ");
  Serial.println(cmd);
  // We expect ON or OFF from bluetooth
  if(cmd=="avant"){

  //Direction moteur A
  digitalWrite (IN1, HIGH);
  digitalWrite (IN2, LOW);
  //analogWrite (ENA, 255); //Vitesse moteur A
  //Direction moteur B
  digitalWrite (IN3, HIGH);
  digitalWrite (IN4, LOW);
  //analogWrite (ENB, 255); //Vitesse moteur B

  }
  if(cmd=="arriere"){

  //Direction moteur A
  digitalWrite (IN1, LOW);
  digitalWrite (IN2, HIGH);
  // analogWrite (ENA, 255); //Vitesse moteur A
  //Direction moteur B
  digitalWrite (IN3, LOW);
  digitalWrite (IN4, HIGH);
  }
  }
}

```

```

//analogWrite (ENB, 255); //Vitesse moteur B

}
if(cmd=="gauche"){

//Direction moteur A
digitalWrite (IN1, HIGH);
digitalWrite (IN2, LOW);
//analogWrite (ENA, 100); //Vitesse moteur A
//Direction moteur B
digitalWrite (IN3, LOW);
digitalWrite (IN4, LOW);
//analogWrite (ENB, 100); //Vitesse moteur A
}
if(cmd=="droite"){
//Direction moteur A
digitalWrite (IN1, LOW);
digitalWrite (IN2, LOW);
//analogWrite (ENA, 100); //Vitesse moteur A
//Direction moteur B
digitalWrite (IN3, HIGH);
digitalWrite (IN4, LOW);
//analogWrite (ENB, 100); //Vitesse moteur B
}
if(cmd=="stop"){
//Direction moteur A
digitalWrite (IN1, LOW);
digitalWrite (IN2, LOW);
//analogWrite (ENA, 0); //Vitesse moteur A
//Direction moteur B
digitalWrite (IN3, LOW);
digitalWrite (IN4, LOW);
//analogWrite (ENB, 0); //Vitesse moteur A
}
cmd=""; //reset cmd
}

delay(100);
}

```

AppInventor Code

The screenshot shows the AppInventor Designer interface for a project named "commander_voiture_arduino2". The interface is divided into several panels:

- Palette:** A search bar and a list of UI components including Button, CheckBox, DatePicker, Image, Label, ListPicker, ListView, Notifier, PasswordTextBox, Slider, Spinner, Switch, TextBox, TimePicker, and WebViewer.
- Viewer:** A central area displaying a mobile app preview. The app screen is titled "Commander la voiture" and features a "Choisir Arduino" button at the top, followed by three rows of directional buttons: "Avant", "Gauche" and "Droite", and "Arrière".
- Components:** A tree view showing the hierarchy of components on the screen, including "Screen1", "Label1", "choisir_arduino", "etat", "Arrangement_horizontal1", "HorizontalArrangement1", "HorizontalArrangement2", and "BluetoothClient1".
- Properties:** A panel on the right showing the properties for the selected "Screen1" component, such as "AboutScreen", "AccentColor", "AlignHorizontal", "AlignVertical", "AppName", "BackgroundColor", "BackgroundImage", "BigDefaultText", "BlocksToolkit", "CloseScreenAnimation", and "DefaultFileScope".

The screenshot shows the AppInventor Blocks editor for the same project. The interface is divided into:

- Blocks:** A sidebar on the left with categories like Control, Logic, Math, Text, Lists, Dictionaries, Colors, Variables, and Procedures. It also shows a list of components used in the app, including "Screen1", "Label1", and "choisir_arduino".
- Viewer:** A central area displaying a visual programming script. The script consists of several event-driven blocks:
 - when choisir_arduino.BeforePicking:** A "do" block containing "set choisir_arduino.Elements to BluetoothClient1.AddressesAndNames".
 - when choisir_arduino.AfterPicking:** A "do" block containing "set choisir_arduino.Selection to call BluetoothClient1.Connect address choisir_arduino.Selection" and "set etat.Text to 'smartphone connecté à l'arduino'".
 - when avant.TouchDown:** A "do" block containing "call BluetoothClient1.SendText text 'avant'".
 - when avant.TouchUp:** A "do" block containing "call BluetoothClient1.SendText text 'stop'".
 - when droite.TouchDown:** A "do" block containing "call BluetoothClient1.SendText text 'droite'".
 - when droite.TouchUp:** A "do" block containing "call BluetoothClient1.SendText text 'stop'".
 - when gauche.TouchDown:** A "do" block containing "call BluetoothClient1.SendText text 'gauche'".
 - when gauche.TouchUp:** A "do" block containing "call BluetoothClient1.SendText".