



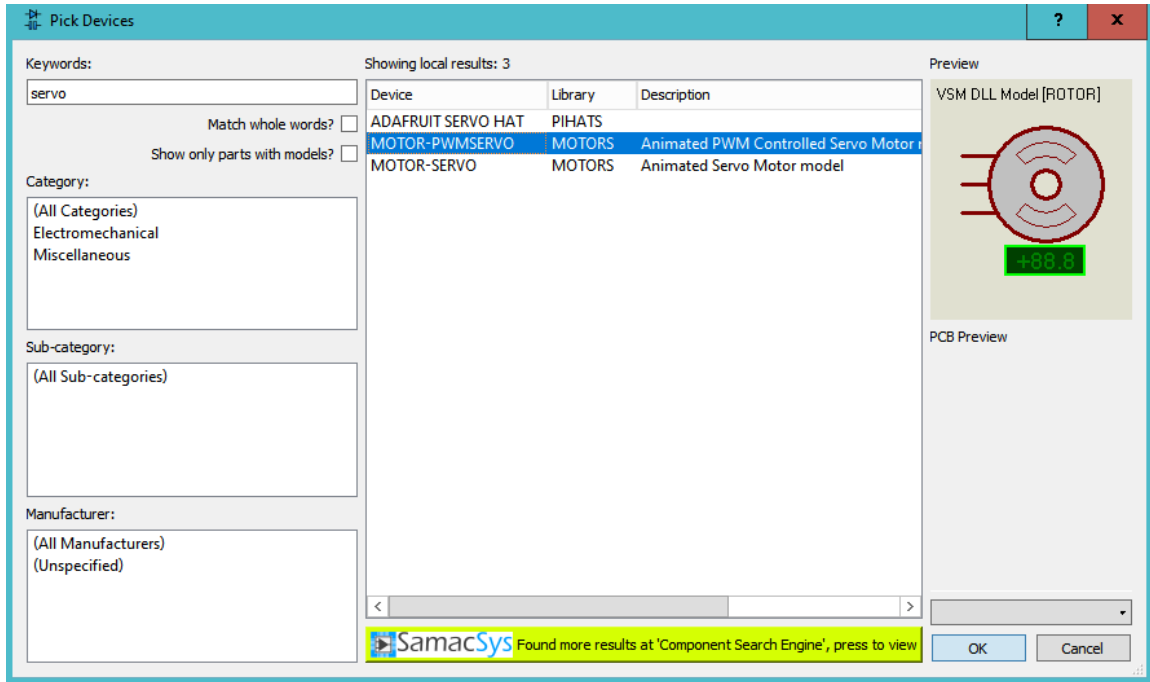
Microcontroller Design Laboratory

Lecturer: DR. Shaymaa Akram Yousif

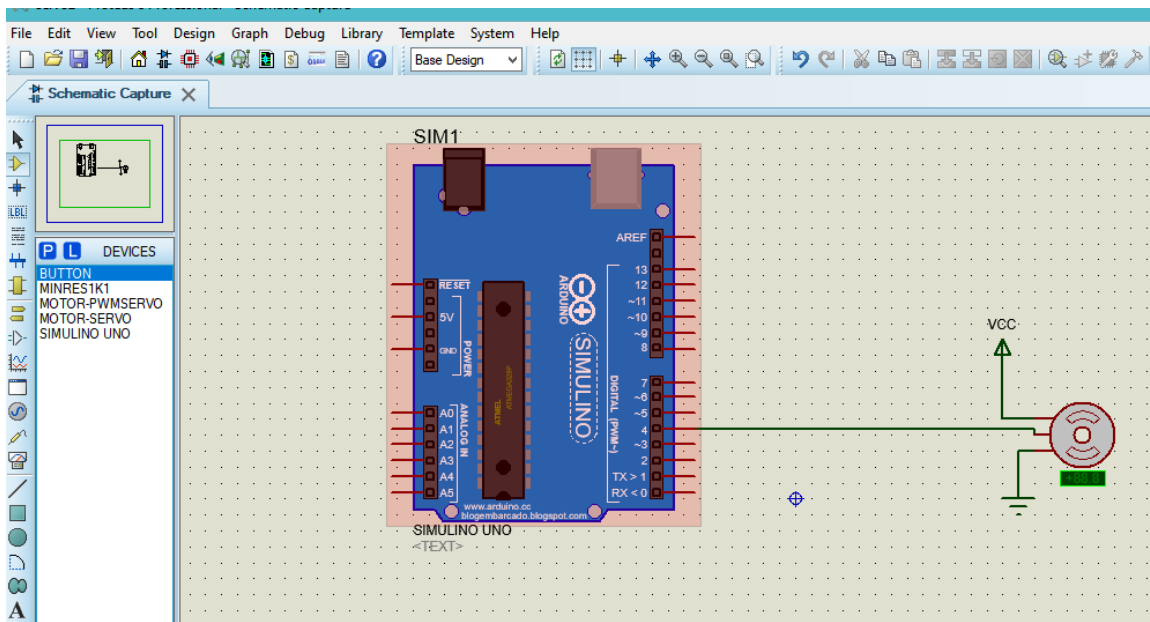


Servo motor with buttons

- 1-Add Arduino UNO, Power, and ground as you learned in previous lectures.
- 2- add Servo motor.



- 3- Connect the circuit as shown.





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4-upload the below code to your Arduino board by hex file

Code:-

```
#include <Servo.h>

int i = 0;
int j = 0;
int k = 0;
Servo servo_4;

void setup()
{
  servo_4.attach(4);
}

void loop() {
  for (i = 0; i <= 180; i += 1)
  {
    servo_4.write(i); delay(50); // Wait for 50 millisecond(s)
  }
  for (k = 180; k >= 0; k -= 1)
  {
    servo_4.write(k); delay(50); // Wait for 50 millisecond(s)
  }
}
```

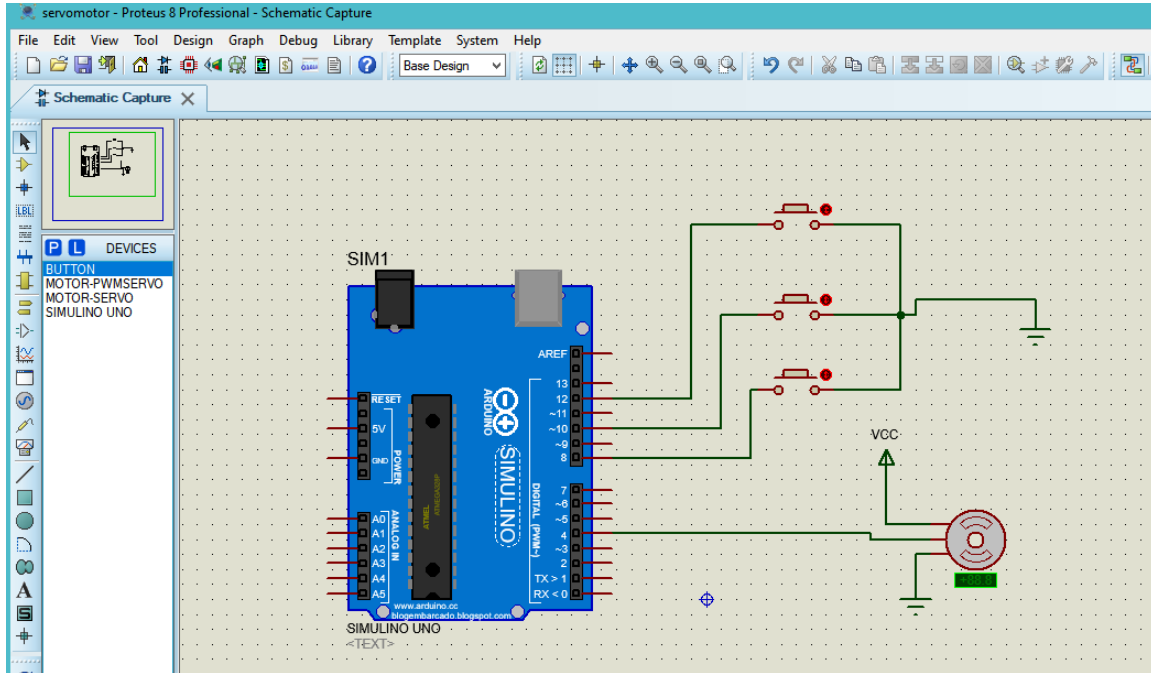


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5- add 3 buttons to your schematic and connect them as shown below



6-upload the below code to your Arduino board by hex file

Code:-

```
#include <Servo.h>
```

```
Servo servo_4;
```

```
int degree90 = 8;
```

```
int degree0 = 10;
```

```
int degree_90 = 12;
```

```
void setup()
```

```
{
```

```
servo_4.attach(4);
```

```
pinMode(degree90, INPUT_PULLUP); //this causes the pin to read HIGH when the  
switch is open and LOW when the switch is pressed.
```

```
pinMode(degree0, INPUT_PULLUP);
```

```
pinMode(degree_90, INPUT_PULLUP);
```



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```
}  
void loop()  
{  
  if(digitalRead(degree90) == LOW)  
  {  
    servo_4.write(180);  
  }  
  if(digitalRead(degree0) == LOW)  
  {  
    servo_4.write(90);  
  }  
  if(digitalRead(degree_90) == LOW)  
  {  
    servo_4.write(0);  
  }  
}
```

By:-

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