

Arduino Uno Code (Student ID 1801169, 1801171)

```
int angle =0;
int dr=10;
void setup()
{
  pinMode(11, OUTPUT); // Timer 2
  pinMode(3, OUTPUT); // Timer 2
  TCCR2A = B10110001;
  TCCR2B = B00000101;
  TIMSK2 = B00000001;
}
ISR(TIMER2_OVF_vect)
{
  int duty = (255*sin(angle*3.1416/180)+255)/2;
  OCR2A = duty;

  if (duty==0){
    dr=0;
  }else{
    dr=10;
  }

  int y= duty+dr;

  if (y>=255){
    y=255;
  }
  else{
    y=y;
  }
}
```

```
OCR2B=y;  
angle = angle +5;  
if (angle>360)  
{  
    angle =0;  
}
```

```
}  
void loop()  
{  
}
```