

# Lab 5 Report

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Registered Lab Session: 3A

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EECS 20

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# Code for Lab 5

```
/* EECS20_Lab5
   May 16, 2019*/

#include <stdio.h>
#include <math.h>

/* Main Function */

int main(void)
{
    char a,b,c,d,e,f,g,h,i; /*input variables*/
    int color_code1 = 0,color_code2 = 0,color_code3 = 0,R0,R1,R2,z,TR; /*variables for calculation*/
    float RT,x,y,n; /*Numbers for float calculation*/
    printf("Please enter the color code 1 of the resistor R0:\n"); /* Gets Inputs for R0 */
    scanf("%c", &a);
    printf("Please enter the color code 2 of the resistor R0:\n");
    scanf(" %c", &b);
    printf("Please enter the color code 3 of the resistor R0:\n");
    scanf(" %c", &c);

    switch(a){ /* decides what number to assign*/
        case 'B':
            color_code1=0;
            break;
        case 'b':
            color_code1=1;
            break;
        case 'R':
            color_code1=2;
            break;
        case 'O':
            color_code1=3;
            break;
        case 'Y':
            color_code1=4;
            break;
        case 'G':
            color_code1=5;
            break;
        case 'V':
            color_code1=7;
            break;
        case 'g':
            color_code1=8;
            break;
        case 'W':
            color_code1=9;
            break;
```

```
}  
switch(b){  
    case 'B':  
        color_code2=0;  
        break;  
    case 'b':  
        color_code2=1;  
        break;  
    case 'R':  
        color_code2=2;  
        break;  
    case 'O':  
        color_code2=3;  
        break;  
    case 'Y':  
        color_code2=4;  
        break;  
    case 'G':  
        color_code2=5;  
        break;  
    case 'V':  
        color_code2=7;  
        break;  
    case 'g':  
        color_code2=8;  
        break;  
    case 'W':  
        color_code2=9;  
        break;  
}  
switch(c){  
    case 'B':  
        color_code3=0;  
        break;  
    case 'b':  
        color_code3=1;  
        break;  
    case 'R':  
        color_code3=2;  
        break;  
    case 'O':  
        color_code3=3;  
        break;  
    case 'Y':  
        color_code3=4;  
        break;  
    case 'G':  
        color_code3=5;  
        break;  
    case 'V':
```

```

        color_code3=7;
        break;
    case 'g':
        color_code3=8;
        break;
    case 'W':
        color_code3=9;
        break;
}
z=pow(10,color_code3);
R0=(10*color_code1+color_code2)*z; /* calculates ohms */
printf("R0 = %d Ohms\n", R0); /* prints the result */

printf("Please enter the color code 1 of the resistor R1:\n"); /* Gets Inputs for R1 */
scanf(" %c", &d);
printf("Please enter the color code 2 of the resistor R1:\n");
scanf(" %c", &e);
printf("Please enter the color code 3 of the resistor R1:\n");
scanf(" %c", &f);
switch(d){ /* decides what number to assign */
    case 'B':
        color_code1=0;
        break;
    case 'b':
        color_code1=1;
        break;
    case 'R':
        color_code1=2;
        break;
    case 'O':
        color_code1=3;
        break;
    case 'Y':
        color_code1=4;
        break;
    case 'G':
        color_code1=5;
        break;
    case 'V':
        color_code1=7;
        break;
    case 'g':
        color_code1=8;
        break;
    case 'W':
        color_code1=9;
        break;
}
switch(e){
    case 'B':

```

```
        color_code2=0;
        break;
    case 'b':
        color_code2=1;
        break;
    case 'R':
        color_code2=2;
        break;
    case 'O':
        color_code2=3;
        break;
    case 'Y':
        color_code2=4;
        break;
    case 'G':
        color_code2=5;
        break;
    case 'V':
        color_code2=7;
        break;
    case 'g':
        color_code2=8;
        break;
    case 'W':
        color_code2=9;
        break;
}
switch(f){
    case 'B':
        color_code3=0;
        break;
    case 'b':
        color_code3=1;
        break;
    case 'R':
        color_code3=2;
        break;
    case 'O':
        color_code3=3;
        break;
    case 'Y':
        color_code3=4;
        break;
    case 'G':
        color_code3=5;
        break;
    case 'V':
        color_code3=7;
        break;
    case 'g':
```

```

        color_code3=8;
        break;
    case 'W':
        color_code3=9;
        break;
}
z=pow(10,color_code3);
R1=(10*color_code1+color_code2)*z; /* calculates ohms */
printf("R1 = %d Ohms\n", R1); /* prints the result */

printf("Please enter the color code 1 of the resistor R2:\n"); /* Gets Inputs for R2 */
scanf(" %c", &g);
printf("Please enter the color code 2 of the resistor R2:\n");
scanf(" %c", &h);
printf("Please enter the color code 3 of the resistor R2:\n");
scanf(" %c", &i);

switch(g){ /* decides what number to assign */
    case 'B':
        color_code1=0;
        break;
    case 'b':
        color_code1=1;
        break;
    case 'R':
        color_code1=2;
        break;
    case 'O':
        color_code1=3;
        break;
    case 'Y':
        color_code1=4;
        break;
    case 'G':
        color_code1=5;
        break;
    case 'V':
        color_code1=7;
        break;
    case 'g':
        color_code1=8;
        break;
    case 'W':
        color_code1=9;
        break;
}
switch(h){
    case 'B':
        color_code2=0;

```

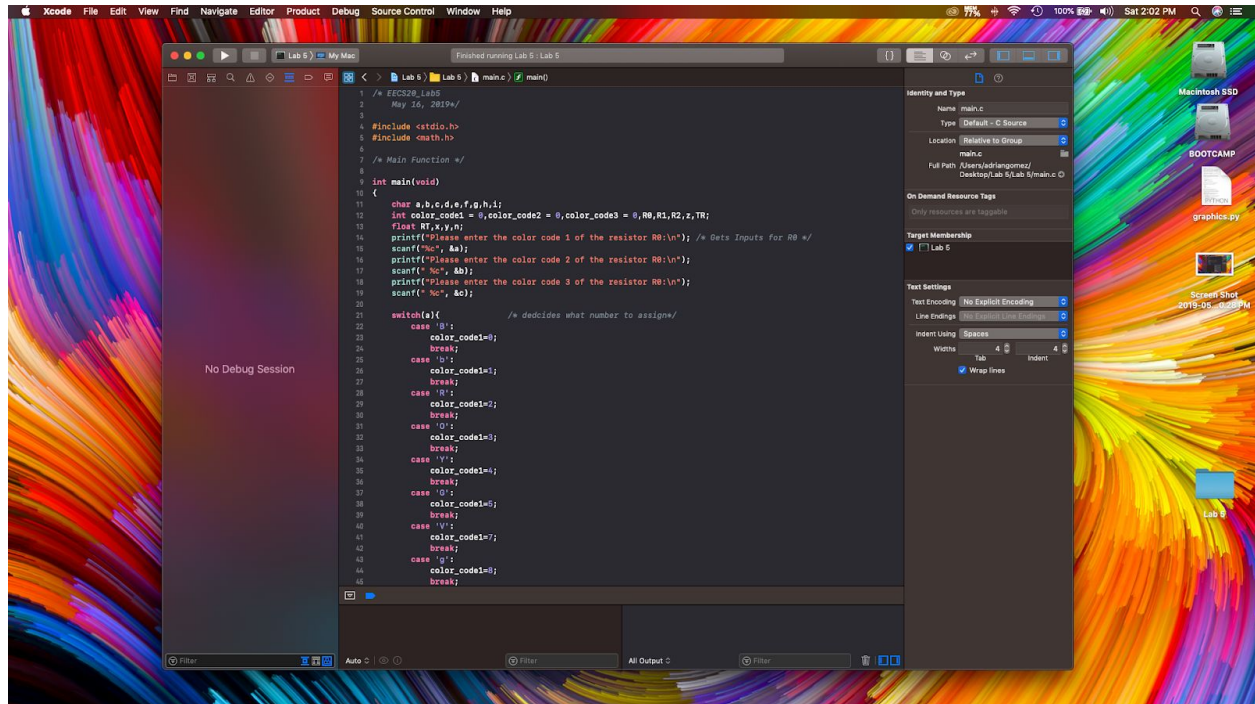
```
        break;
    case 'b':
        color_code2=1;
        break;
    case 'R':
        color_code2=2;
        break;
    case 'O':
        color_code2=3;
        break;
    case 'Y':
        color_code2=4;
        break;
    case 'G':
        color_code2=5;
        break;
    case 'V':
        color_code2=7;
        break;
    case 'g':
        color_code2=8;
        break;
    case 'W':
        color_code2=9;
        break;
}
switch(i){
    case 'B':
        color_code3=0;
        break;
    case 'b':
        color_code3=1;
        break;
    case 'R':
        color_code3=2;
        break;
    case 'O':
        color_code3=3;
        break;
    case 'Y':
        color_code3=4;
        break;
    case 'G':
        color_code3=5;
        break;
    case 'V':
        color_code3=7;
        break;
    case 'g':
        color_code3=8;
```

```
        break;
    case 'W':
        color_code3=9;
        break;
    }
    z=pow(10,color_code3);
    R2=(10*color_code1+color_code2)*z; /* calculates ohms */
    printf("R2 = %d Ohms\n", R2); /* prints the result */

    TR=R0+R1+R2; /* calculation for series */
    printf("Total resistance for a series circuit=RT=R0+R1+R2= %d Ohms\n", TR);
    x=R0+0.0;
    y=R1+0.0;
    n=R2+0.0;
    RT=1/((1/x)+(1/y)+(1/n)); /* Calculation for parallel */
    printf("Total resistance for a parallel circuit=RT=1/[(1/R0)+(1/R1)+(1/R2)]= %f Ohms\n", RT);
    return 0;
}
```



# Screenshot for BEFORE



# Screenshot for AFTER

