

Robin Ward

SQA Assignment 1

Due: Monday, February 27, 2017

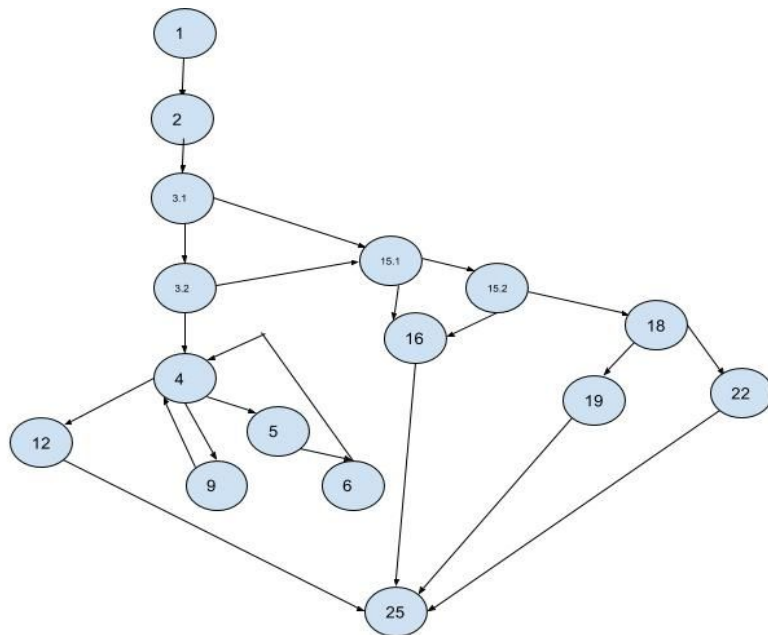
```

void q1(){
    s1(); //total for this if statement: 1
    if (c1 && c2) { //30*2=60
        while (c3) { // (2^1)+(2^2)+(2^3)+(2^4)=2+4+8+16=30
            if (c4) { //total for this if statement: 2
                s2(); //this counts as 1
            }
            else {
                s3(); //this counts as 1
            }
        }
        s4(); //this counts as 2 because there are 2 ways to get to this point
    }

    else { //2*(2*(1+1))=8
        if (c5||c6) { //total for this if statement: 2
            s5(); //this counts as 1
        }
        if (c7) { //total for this if statement: 2
            s6(); //1
        }
        else {
            s7(); //1
        }
    }
    s8(); //total for this if statement: 1
}
//P*= 1*(60+8)*1=68

```

conditions + 1 = 7 + 1 = 8
 $|E| - |V| + 2 = 22 - 16 + 2 = 8$
 # Regions + 1 = 7 + 1 = 8



```

void q2() {
    if (c1) { //1*4=4
        s1(); //this counts as 1
        do { //2*2=4
            if ((c2 || c3) && c4) { //total for this if statement: 1
                s2(); //this counts as 1
            }
            s3(); //total for this if statement: 1
        } while (c5)
    }

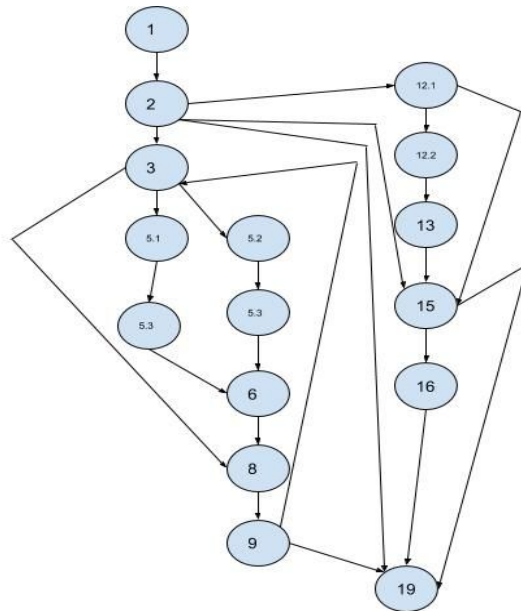
    else { //this counts as 1
        if (c6 && c7) { //total for this if statement: 1
            s4(); //this counts as 1
        }
        if (c8) { //total for this if statement: 1
            s6(); //this counts as 1
        }
    }

    s5(); //total for this if statement: 1

    //P*= (4+1)*1=5
}

```

conditions + 1 = 8 + 1 = 9
 $|E| - |V| + 2 = 23 - 16 + 2 = 9$
 # Regions + 1 = 8 + 1 = 9



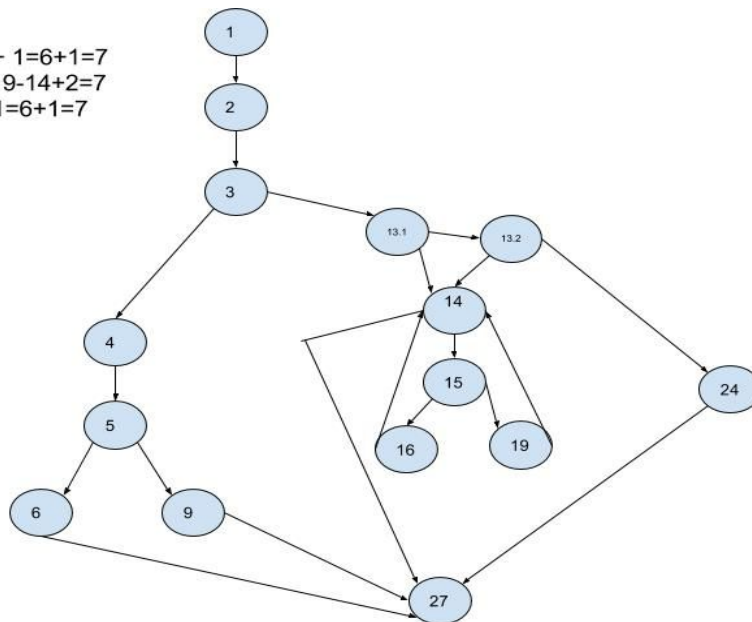
```

void q3() {
    s1(); //total for this if statement: 1
    if (c1) { //1*2=2
        s2(); //total for this if statement: 1
        if (c2) { //total for this if statement: 2
            s3(); //this counts as 1
        }
        else {
            s4(); //this counts as 1
        }
    }
    else { //64+1=65
        if (c3 || c4) { //2*32=64
            for(int i=0; c5; i++) { //2^5=32
                if (c6) { //total for this if statement: 2
                    s5(); //this counts as 1
                }
                else {
                    s6(); //this counts as 1
                }
            }
        }
        else {
            s7(); //this counts as 1
        }
    }
    s8(); //this counts as 1
}

```

//P*=1*(2+65)*1=67

conditions + 1=6+1=7
 $|E| - |V| + 2 = 19 - 14 + 2 = 7$
 # Regions + 1=6+1=7



```

void q4 () {
    s1(); //total for this if statement: 1
    if (c1) { //total for this if statement: 39+3=42
        do { // (3^1)+(3^2)+(3^3)=3+9+27=39
            if (c2) { //total for this if statement: 3
                s2(); //this counts as 1
            }
            else { //this counts as 2
                if (c3) { //total for this if statement: 2
                    s3(); //this counts as 1
                }
                else {
                    s4(); //this counts as 1
                }
            }
        } while (c4)
    }
    else { //this counts as 3
        while (c5) { // (1^1)+(1^2)+(1^3)=3
            if (c6 && c7) { //total for this if statement: 1
                s5(); //this counts as 1
            }
        }
    }
    s6(); //total for this if statement: 1
}

//P*=1*(39+3)*1=42

```

conditions + 1 = 7 + 1 = 8
 $|E| - |V| + 2 = 20 - 14 + 2 = 8$
 # Regions + 1 = 7 + 1 = 8

