1. Briefly describe where you can use the Strategy Design Pattern and the Template Method. **(2 marks)**

2. A program takes temperature in Celsius as input and converts it into Fahrenheit using the formula $F = \frac{9}{5} \times C + 32$. Design test cases for this program using BVC, robust testing, and worst-case testing methods. **(3 marks)**

3. Consider the following code:

```
int a,b, c,d;

printf("enter the two variables a,b");
scanf("%d %d",&a,&b);
printf("enter the option 1:Addition,2:subtraction,3:multiplication,4:division");
scanf("%d",&c);

switch(c)
{
    case 1:
        d = a+b;
        printf("Addition of two no.=%d", d);
        break;
    case 2:
        d = a-b;
        printf("Subtraction of two no.=%d", d);
        break;
    case 3:
        d = a*b;
        printf("Multiplication of two no.=%d", d);
        break;
    case 4:
        d = a/b;
        printf("division of two no.=%d",d);
        break;
}

return 0;
```

a) Draw the Control Flow Graph for the program. **(2 marks)**

b) List all independent paths. **(1 marks)**

c) Calculate the cyclomatic complexity of the program using all three methods. **(2 marks)**