5. (a) Describe the main steps in the register allocation algorithm, including both coalescing and spilling. [8]

   (b) Compare and contrast the use of Maximal Munch with the use of Dynamic Programming for instruction selection. How does the target architecture affect the choice of instruction selection method? [8]

   (c) Explain the process of efficiently translating Boolean expressions into jump instructions to true and false branches. Illustrate the method using the following code fragment:

```
if x < y and z = a + b then x := y else x := -y ;
y := x ;
```

[9]