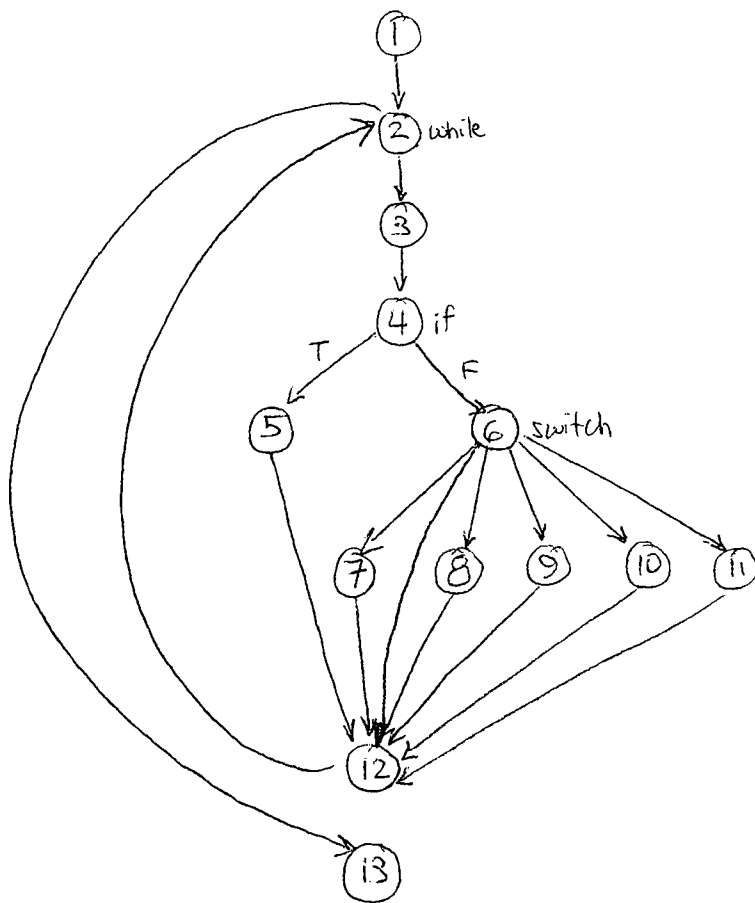


1)
a)



- b)
- 1) 1, 2, 13
 - 2) 1, 2, 3, 4, 5, 12, 2, ...
 - 3) 1, 2, 3, 4, 6, 7, 12, 2, ...
 - 4) 1, 2, 3, 4, 6, 8, 12, 2, ...
 - 5) 1, 2, 3, 4, 6, 9, 12, 2, ...
 - 6) 1, 2, 3, 4, 6, 10, 12, 2, ...
 - 7) 1, 2, 3, 4, 6, 11, 12, 2, ...
 - 8) 1, 2, 3, 4, 6, 12, 2, ...

- c)
- 1) url = null string
 - 2) url[i] = "\0" (some control char)
 - 3) url[i] = ">"
 - 4) url[i] = "<"
 - 5) url[i] = "#"
 - 6) url[i] = "%"
 - 7) url[i] = "\""
 - 8) url[i] = "h" (or some other legal character)

1) Assignment of nodes to code example.

Untitled

```
is_illegal(input String url, output Boolean valid)
begin
```

```
Integer i;
Char c;
valid = true; ) ①
i = 1;
```

```
loop through characters in string
while (i <= length(url) AND valid == TRUE) begin ) ②
```

```
    c = url[i]; get i'th character of string ③
```

```
④ if (c >= 0 AND c <= 32) then    check for control chars and space
```

```
⑤     valid = false;
```

```
    else
```

```
⑥     switch (c)                    look for delimiters
```

```
⑦     case ">":
        valid = false;
```

```
⑧     case "<":
        valid = false;
```

```
⑨     case "#":
        valid = false;
```

```
⑩     case "%":
        valid = false;
```

```
⑪     case "\"":                    check for quote character
        valid = false;
```

```
    end switch;
end if;
```

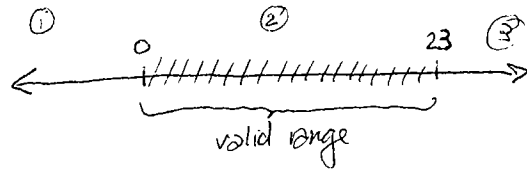
```
⑫ end while;
```

```
⑬ end; end of function
```

2)

a) start_hour

a.1) $-5, 3, 45$



a.2) representative values from ranges 1, 2, 3

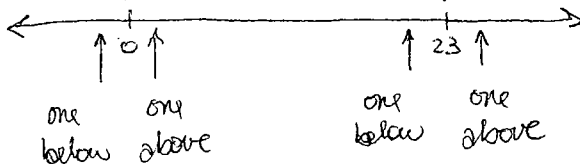
b)

b.1) $-1, 0, 1, 22, 23, 24$

low boundary

high boundary

b.2)



c)

examples:

c.1) all low: $-1, -1, -1, -1, 0$

all high: $50, 90, 50, 90, 200$

all ok: $2, 30, 4, 30, 25$

mixed: $-1, 30, 4, -1, 25$

(some valid,
some low)

c.2)

examples:

$0, 0, 0, 0, 2$ ← all on lower boundary

$23, 59, 23, 59, 99$ ← all on upper boundary

$24, 60, 24, 60, 100$ ← all one above upper boundary

$24, -1, 24, -1, 100$ ← mix of one above ; one below