

Exercise 6

1. Rewrite pseudocode segment using a loop structure in the C++ ,Python.

```
k=(j+13)/27
Loop:
If k>10 then goto out
k=k+1
i=3*k-1
goto loop
out : .....
```

Ans:

1. C++

```
int k = (j + 13) / 27;

while (true) {
    if (k > 10) {
        break; // Exit the loop
    }
    k = k + 1;
    int i = 3 * k - 1;
}
```

2. Python

```
k = (j + 13) // 27

while True:
    if k > 10:
        break # Exit the loop
    k = k + 1
    i = 3 * k - 1
```

2. Rewrite pseudocode segment using a multiple-selection statement structure in C++ ,Python.

```
if (( k==1) || (k==2) ) j=2*k-1
if ((k==3) || (k==5)) j=3*k+1
if (k==4) j =4*k-1
if ((k==6) || (k==7)|| (k==8)) j=k-2
```

Ans:

1. C++

```
switch(k) {
    case 1:
    case 2:
        j = 2 * k - 1;
        break;
    case 3:
    case 5:
        j = 3 * k + 1;
        break;
    case 4:
        j = 4 * k - 1;
        break;
    case 6:
    case 7:
    case 8:
        j = k - 2;
        break;
    default:
        // handle any other cases if needed
        break;
}
```

2. Python

```
if k in [1, 2]:  
    j = 2 * k - 1  
elif k in [3, 5]:  
    j = 3 * k + 1  
elif k == 4:  
    j = 4 * k - 1  
elif k in [6, 7, 8]:  
    j = k - 2
```