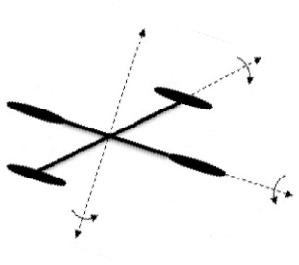
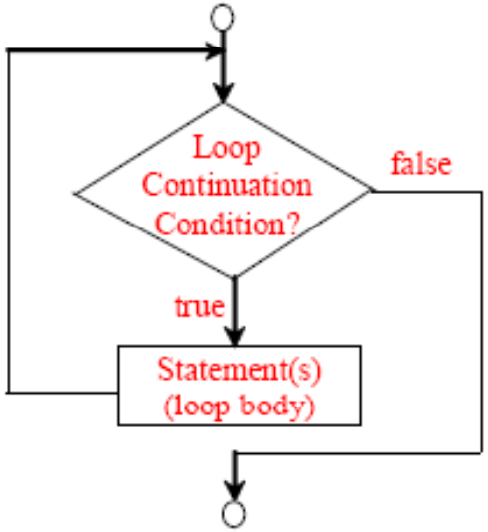
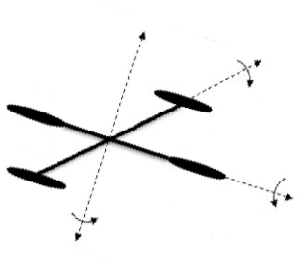
반 복 문



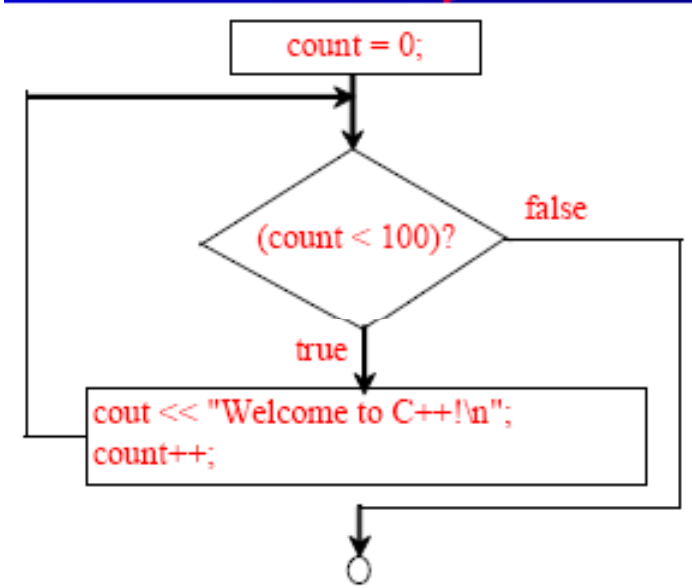
- while 문

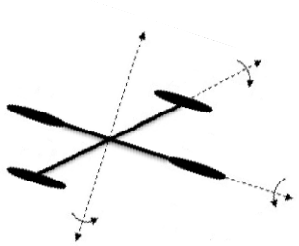
```
while (loop-continuation-condition)
{
  // loop-body;
  Statement(s);
}
```





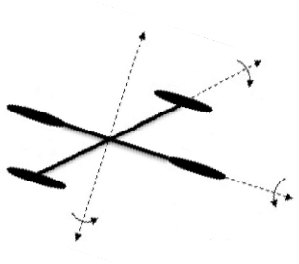
```
int count = 0;
while (count < 100)
{
  cout << "Welcome to C++!\n";
  count++;
}
```





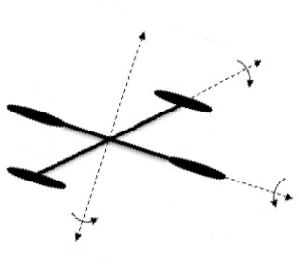
```
int count = 0;
while (count < 2)
{
  cout << "Welcome to C++!";
  count++;
}
```

count 초기화



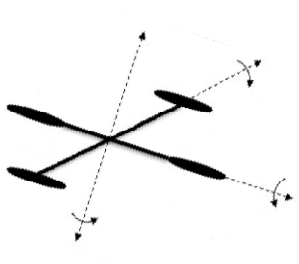
```
int count = 0;
while (count < 2)
{
  cout << "Welcome to C++!";
  count++;
}
```

(count < 2)이면 true



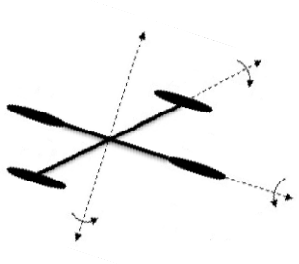
```
int count = 0;
while (count < 2)
{
  cout << "Welcome to C++!";
  count++;
}
```

Welcome to C++ 출력



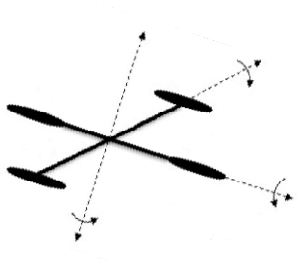
```
int count = 0;
while (count < 2)
{
  cout << "Welcome to C++!";
  count++;
}
```

count를 1씩 증가
현재 count는 1



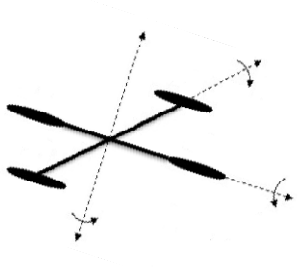
```
int count = 0;
while (count < 2)
{
  cout << "Welcome to C++!";
  count++;
}
```

count가 1이므로 (count < 2)는 true



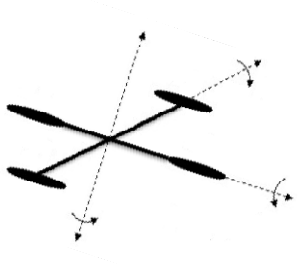
```
int count = 0;
while (count < 2)
{
cout << "Welcome to C++!";
 count++;
}
```

Welcome to C++ 출력



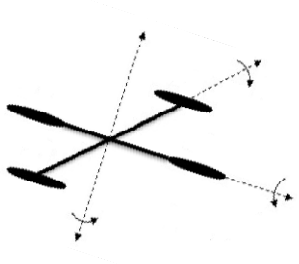
```
int count = 0;
while (count < 2)
{
  cout << "Welcome to C++!";
  count++;
}
```

count 1 증가, count는 2가 됨



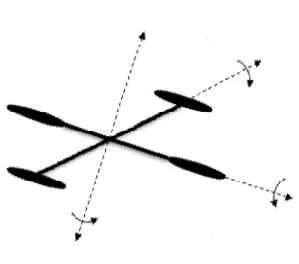
```
int count = 0;
while (count < 2)
{
 cout << "Welcome to C++!";
  count++;
}
```

count가 2이므로 (count < 2)는 false

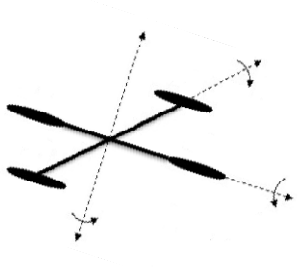


```
int count = 0;
while (count < 2)
{
  cout << "Welcome to C++!";
  count++;
}
```

루프가 끝나고 다음 문장을 수행

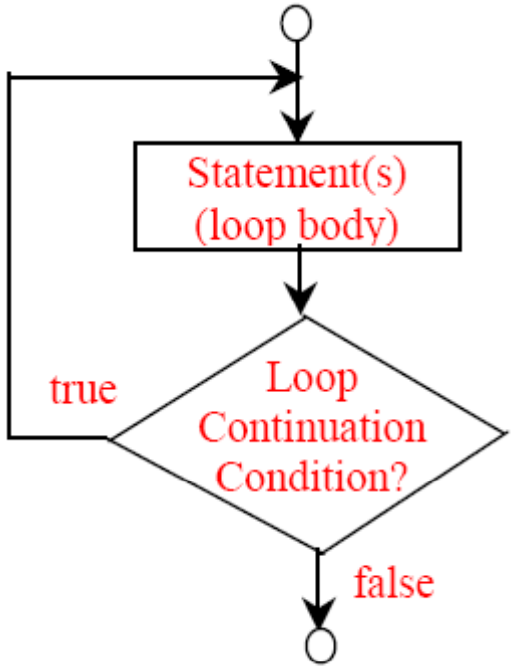


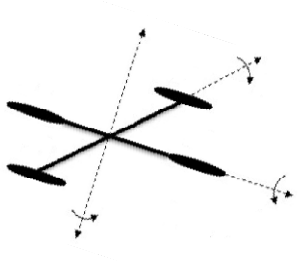
```
char continueLoop = 'Y';
while (continueLoop == 'Y')
{
  // Execute body once
  // Prompt the user for confirmation
  cout << "Enter Y to continue and N to quit: ";
  cin >> continueLoop;
}
```



- do - while 문

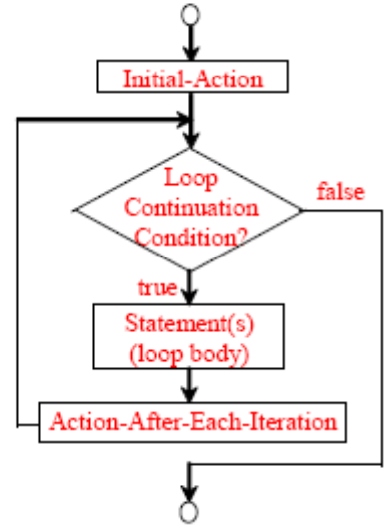
```
do
{
   // Loop body;
   Statement(s);
} while (loop-continuat
```

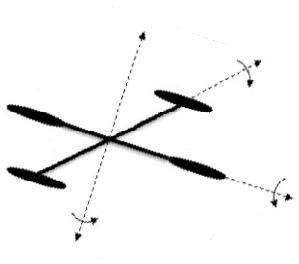




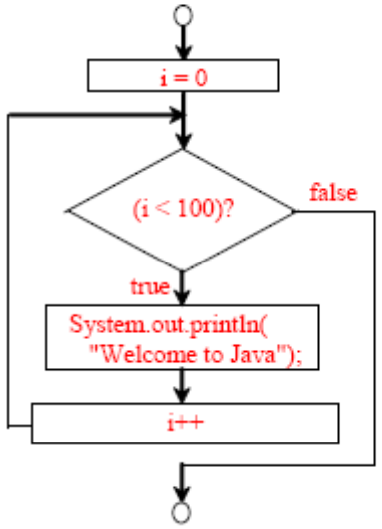
- for 문

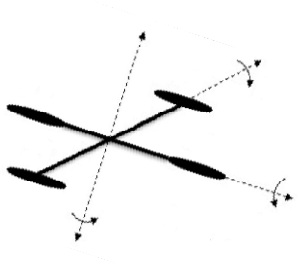
```
for (initial-action; loop-continuation-
    condition; action-after-each-
    iteration)
{
  // loop body;
  Statement(s);
}
```





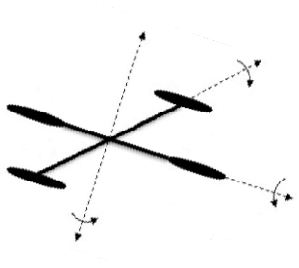
```
int i;
for (i = 0; i < 100; i++)
{
  cout << "Welcome to C++!\n";
}
```





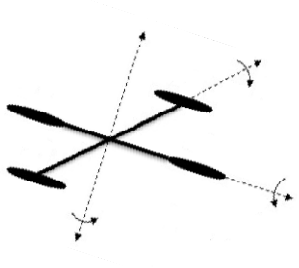
i 선언

```
int i;
for (i = 0; i < 2; i++)
{
  cout <<  "Welcome to C++!";
}
```



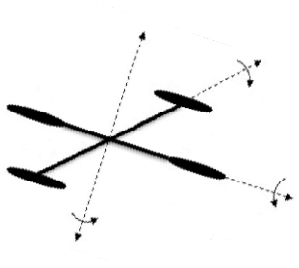
```
int i;
for (i = 0; i < 2; i++)
{
  cout <<  "Welcome to C++!";
}
```

i가 0으로 초기화됨



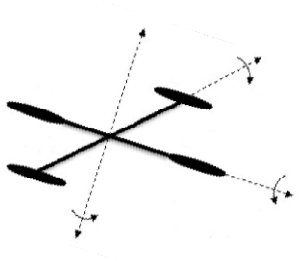
```
int i;
for (i = 0; i < 2; i++)
{
  cout <<  "Welcome to C++!";
}
```

i가 0이므로 (i < 2)는 true



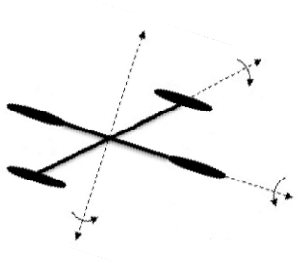
```
int i;
for (i = 0; i < 2; i++)
{
  cout <<  "Welcome to C++!";
}
```

Welcome to C++! 출력



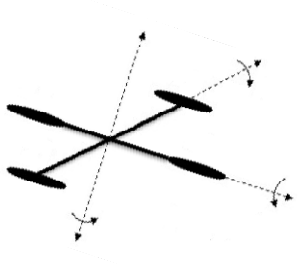
반복 후에 수행하여 i는 1이 됨

```
int i;
for (i = 0; i < 2; i++)
{
  cout <<  "Welcome to C++!";
}
```



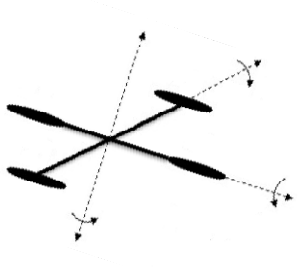
```
int i;
for (i = 0; i < 2; i++)
{
  cout <<  "Welcome to C++!";
}
```

i가 1이므로 (i < 2) 는 true



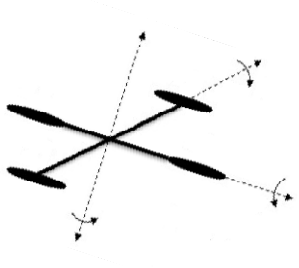
```
int i;
for (i = 0; i < 2; i++)
{
  cout <<  "Welcome to C++!";
}
```

Welcome to C++ 출력



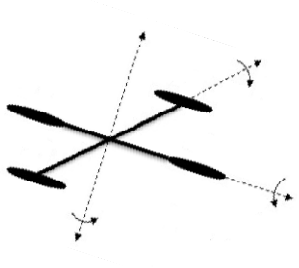
```
int i;
for (i = 0; i < 2; i++)
{
  cout <<  "Welcome to C++!";
}
```

반복 후에 수행하여 i는 2가 됨



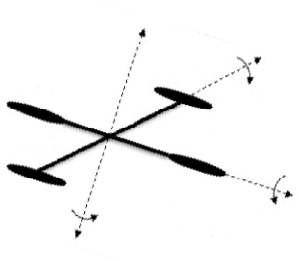
```
int i;
for (i = 0; i < 2; i++)
{
  cout <<  "Welcome to C++!";
}
```

i가 2이므로 (i < 2)는 false



```
int i;
for (i = 0; i < 2; i++)
{
  cout <<  "Welcome to C++!";
}
```

루프가 끝나고 루프 후의 문장이 수행됨



```
#include <iostream>
using namespace std;

int main()
{
  // Prompt the user to enter two integers
  cout << "Enter first integer: ";
  int n1;
  cin >> n1;

  cout << "Enter second integer: ";
  int n2;
  cin >> n2;

  int gcd = 1;
  int k = 1;
  while (k <= n1 && k <= n2)
  {
    if (n1 % k == 0 && n2 % k == 0)
      gcd = k;
    k++;
  }

  cout << "The greatest common divisor for " << n1 << " and "
       << n2 << " is " << gcd <<endl;

  system("PAUSE");
  return EXIT_SUCCESS;
}
```