Nested If's


```
if (cond)        if (cond)
{                    A;
  A;        OR   else
}                    B;
else
{
  B;
}
```
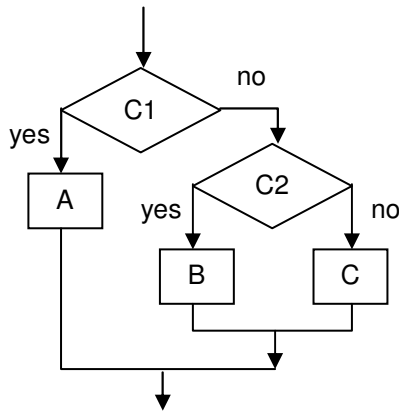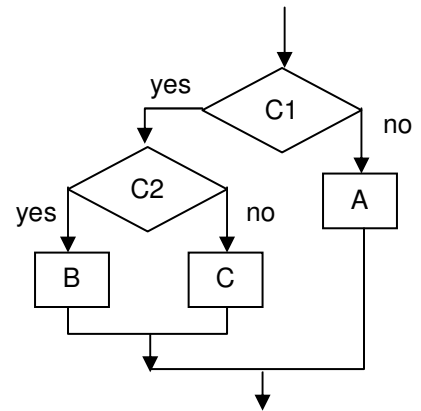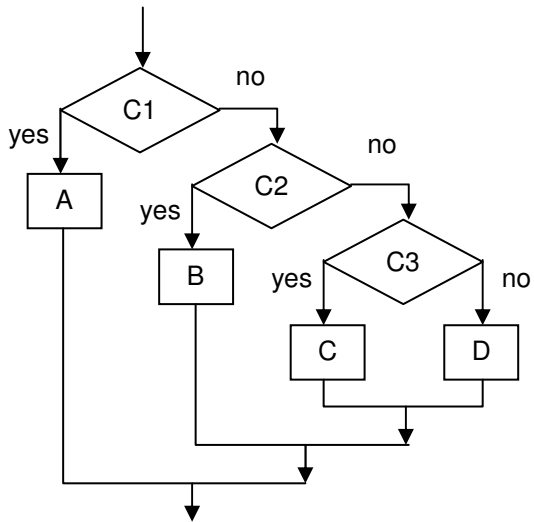
```
if (C1)
{
  A;
}
else
{
  if (C2)
    B;
  else
    C;
}
```

```
if (C1)
{
  if (C2)
    B;
  else
    C;
}
else
{
  A;
}
```


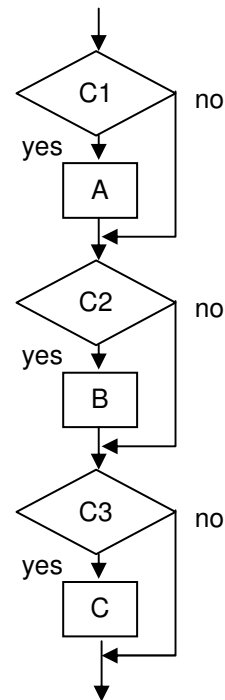```
if (C1)
  A;
else
  if (C2)
    B;
  else
    if (C3)
      C;
    else
      D;
```

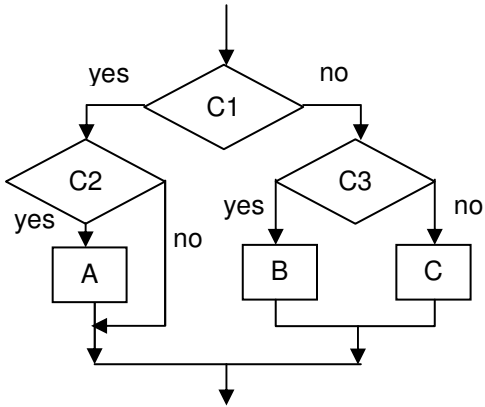*Alternate Form:*

```
if (C1)
  A;
else if (C2)
  B;
else if (C3)
  C;
else
  D;
```

```
if (C1)
  A;
if (C2)
  B;
if (C3)
  C;
```
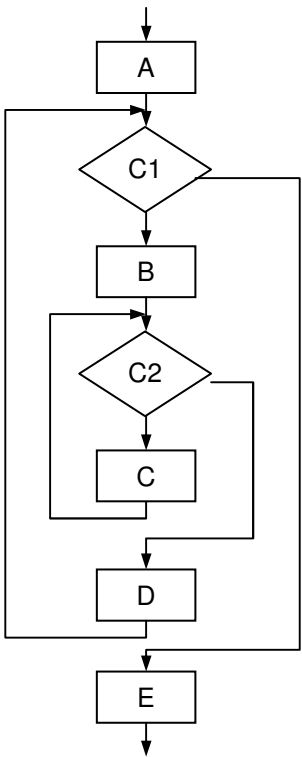
```
if (C1)
{
   if (C2)
      A;
}
else
{
   if (C3)
      B;
   else
      C;
}
```

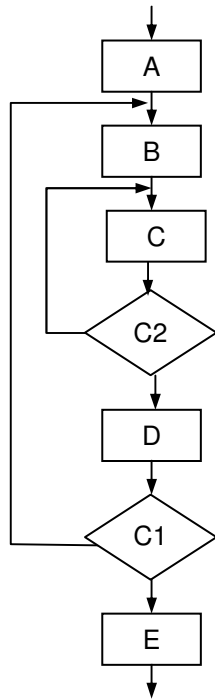**Practice:** Convert the following code into a flowchart:

```
if (C1)
{
   A;
   if (C2)
   {
      if (C3)
         B;
      else
         C;
   }
   else
   {
      D;
      if (C4)
         E;
   }
}
else
   F;
```

Nested Loops


```
A;
while (C1)
{
   B;
   while (C2)
   {
      C;
   }
   D;
}
E;
```

```
A;
do
{
   B;
   do
   {
      C;
   } while (C2);
   D;
} while (C1);
E;
```

```
// Produce multiplication
// table

#include <iostream>
#include <iomanip>
Using namespace std;

void main()
{
   int r, c;

   r = 1;
   while (r <= 10)
   {
      c = 1;
      while (c <= 10)
      {
         cout << setw(4)
              << (r * c);
         c++;
      }
      cout << endl;
      r++;
   }
}
```