

# Introduction to HKOI

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Most anticipated event of the year

Why?

**HKOI** is **FUN!**

# Tic Tac Toe

Visual Basic 5.0

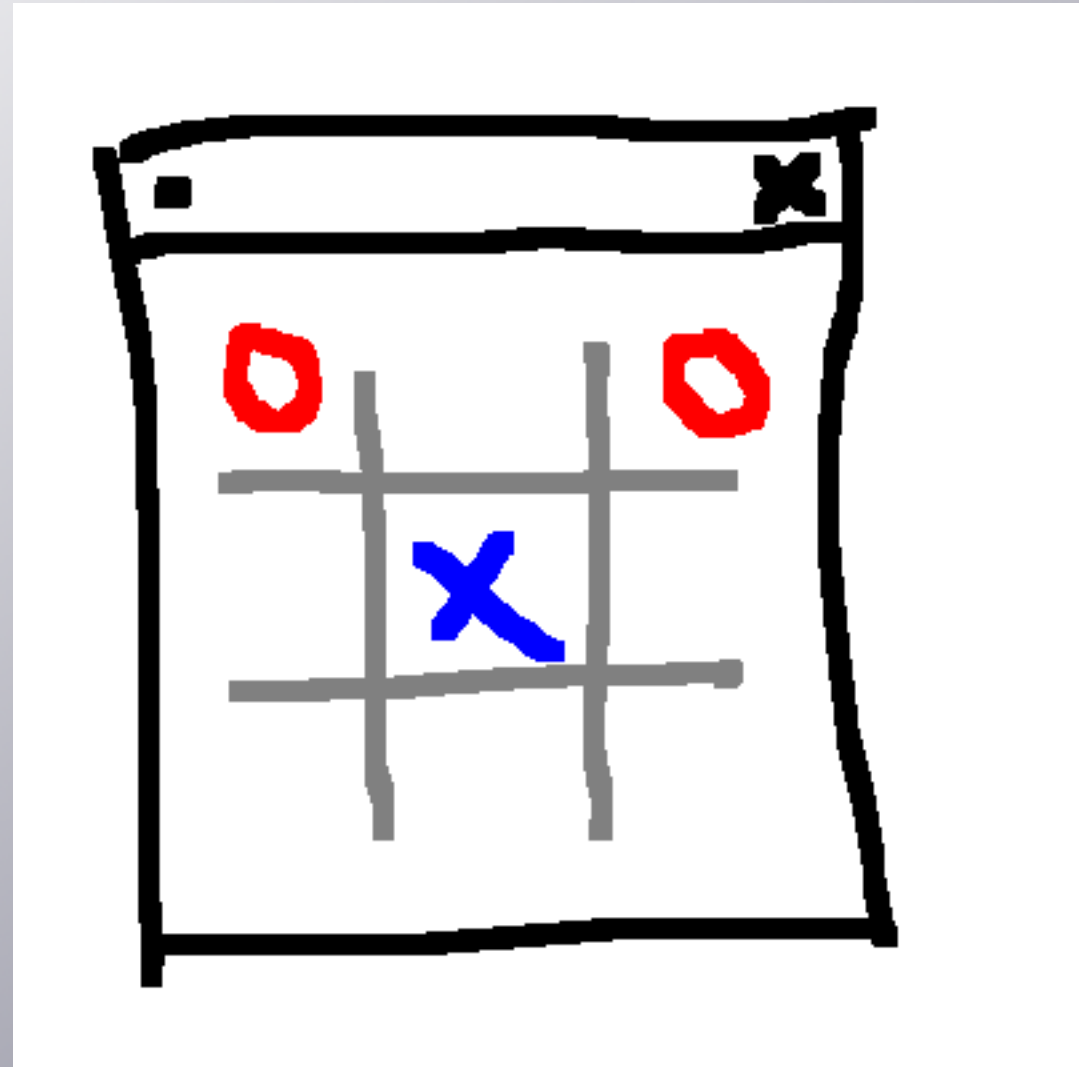
vs Human or Computer

5 levels of AI

Sound effect LOL

AI?

But I don't know BFS/DFS...



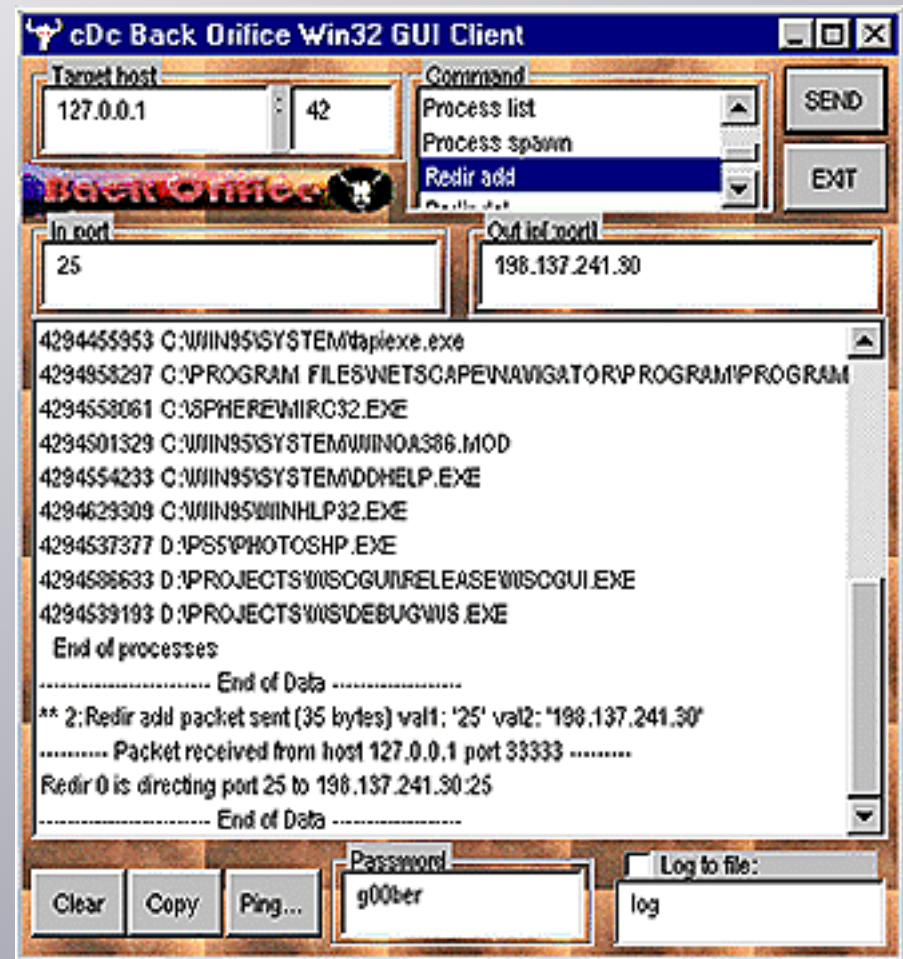
# Wannabe Trojan Horse

Visual C++ 6.0  
Imitate Back Orifice

But I don't know pointers!

What's that LPCTSTR I need  
to pass into RegOpenKey?

What does (sockaddr\*)  
&sinRemote stand for?!



# Computer fundamentals

# Algorithms

# Optimizations

Language tricks!

Learn powerful programming  
techniques\*

Interesting, challenging problems\*

Meet like-minded friends\*

**HKOI** is good programming

Programming is...

Writing code to solve a  
problem

```
int i, j;
char s1[128], s2[128];

// read input (s1, s2)

for (i=1; i<=strlen(s1); ++i) {
    if (s1[i] > 'A' && s1[i] < 'Z')
        s1[i] += 'A' - 'a';
}
for (j=1; j<=strlen(s2); ++j) {
    if (s2[j] > 'A' && s2[j] < 'Z')
        s2[j] += 'A' - 'a';
}
```

```
int i, j;
char s1[128], s2[128];

// read input (s1, s2)

for (i=1; i<=strlen(s1); ++i) {
    if (s1[i] > 'A' && s1[i] < 'Z')
        s1[i] += 'A' - 'a';
}
for (j=1; j<=strlen(s2); ++j) {
    if (s2[j] > 'A' && s2[i] < 'Z')
        s2[j] += 'A' - 'a';
}
```

Programming is...

Writing **correct** code to solve a  
problem

```
int i, j, l1, l2;
char s1[128], s2[128];

// read input (s1, s2)

for (i=0; i<strlen(s1); ++i) {
    if (s1[i] >= 'A' && s1[i] <= 'Z')
        s1[i] -= 'A' - 'a';
}
for (j=0; j<strlen(s2); ++j) {
    if (s2[j] >= 'A' && s2[j] <= 'Z')
        s2[j] -= 'A' - 'a';
}
```

```
int i, j, l1, l2;
char s1[128], s2[128];

// read input (s1, s2)

l1 = strlen(s1);
for (i=0; i<l1; ++i) {
    if (s1[i] >= 'A' && s1[i] <= 'Z')
        s1[i] -= 'A' - 'a';
}
l2 = strlen(s2);
for (j=0; j<l2; ++j) {
    if (s2[j] >= 'A' && s2[j] <= 'Z')
        s2[j] -= 'A' - 'a';
}
```

Programming is...

Writing **correct, efficient** code  
to solve a problem

```
int i, j, l1, l2;
char s1[128], s2[128];

// read input (s1, s2)

l1 = strlen(s1);
for (i=0; i<l1; ++i) {
    if (s1[i] >= 'A' && s1[i] <= 'Z')
        s1[i] -= 'A' - 'a';
}
l2 = strlen(s2);
for (j=0; j<l2; ++j) {
    if (s2[j] >= 'A' && s2[j] <= 'Z')
        s2[j] -= 'A' - 'a';
}
```

```
char s1[128], s2[128];

// read input (s1, s2)

for (int i=0, l=strlen(s1); i<l; ++i) {
    if (s1[i] >= 'A' && s1[i] <= 'Z')
        s1[i] -= 'A' - 'a';
}

for (int i=0, l=strlen(s2); i<l; ++i) {
    if (s2[i] >= 'A' && s2[i] <= 'Z')
        s2[i] -= 'A' - 'a';
}
```

```
char s1[128], s2[128];
```

```
// read input (s1, s2)
```

```
tolower(s1);
```

```
tolower(s2);
```

```
void tolower(char s[]) {
```

```
    for (int i=0, l=strlen(s); i<l; ++i) {
```

```
        if (s[i] >= 'A' && s[i] <= 'Z')
```

```
            s[i] -= 'A' - 'a';
```

```
    }
```

```
}
```

**Good programming is...**

Writing **correct, efficient,**  
**maintainable** code  
to solve a problem

**Good programming is...**

Writing **correct, efficient,**  
**maintainable** code

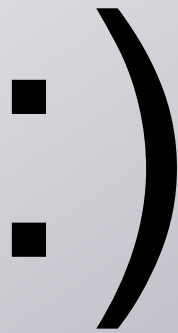
**HKOI** is group activity

**Learn from others**

Challenge your friends

Attack new problems together

The trainers are here  
for you to use!



Have fun!