

**Princeton University**  
**COS 217: Introduction to Programming Systems**  
**Trace of testdupin**

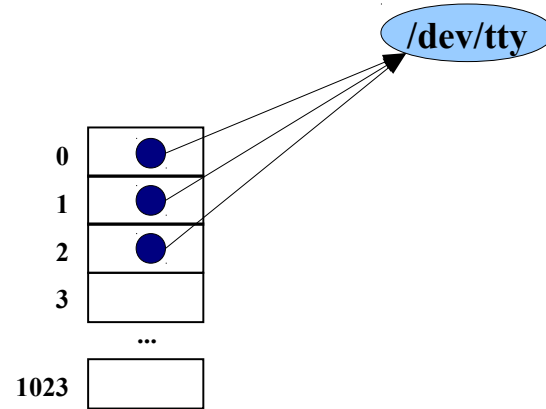
```
% gcc217 testdupin.c -o testdupin
```

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### Trace of testdupin

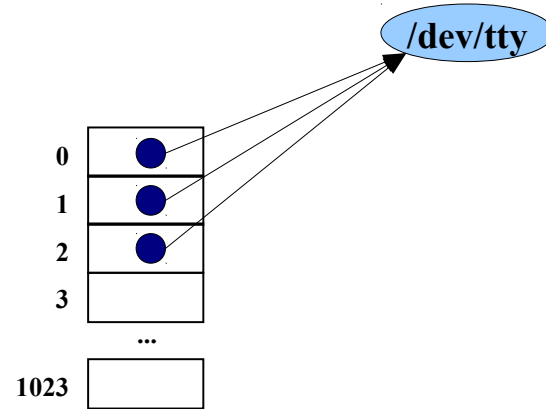
```
% ./testdupin
```



```
int main(void)
{
    int iFd;
    char acBuffer[100];
    iFd = open("tempfile", O_RDONLY);
    close(0);
    dup(iFd);
    close(iFd);
    fgets(acBuffer, 100, stdin);
    fputs(acBuffer, stdout);
    return 0;
}
```

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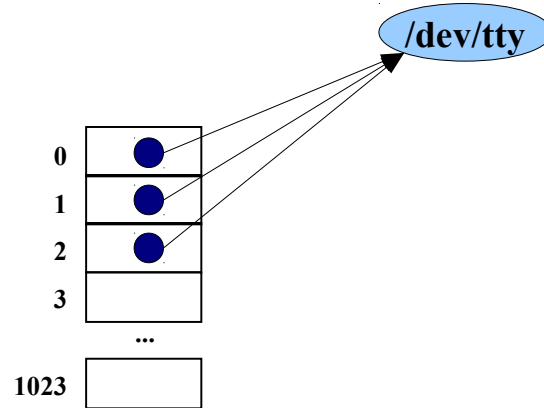
```
% ./testdupin
```



```
int main(void)
{
    int iFd;
    char acBuffer[100];
    iFd = open("tempfile", O_RDONLY);
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    close(iFd);
    fgets(acBuffer, 100, stdin);
    fputs(acBuffer, stdout);
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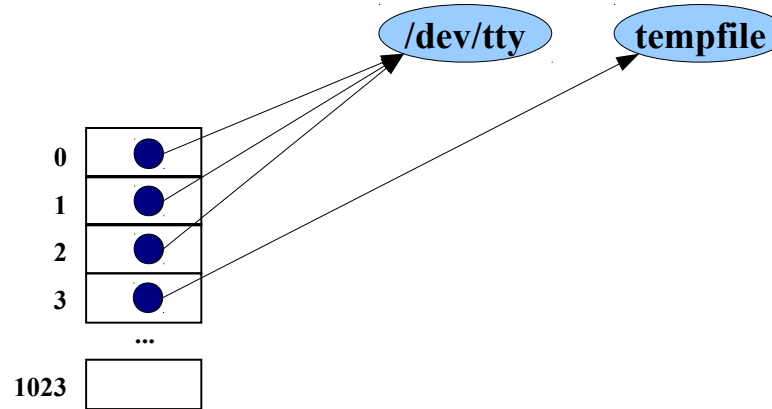
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% ./testdupin
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```
int main(void)
{
    int iFd;
    char acBuffer[100];
    iFd = open("tempfile", O_RDONLY);
    close(0);
    dup(iFd);
    close(iFd);
    fgets(acBuffer, 100, stdin);
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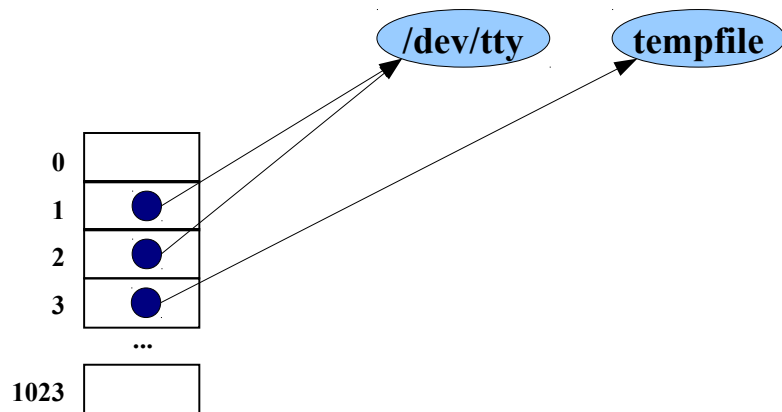
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```
int main(void)
{
    int iFd;
    char acBuffer[100];
    iFd ← open("tempfile", O_RDONLY);
    close(0);
    dup(iFd);
    close(iFd);
    fgets(acBuffer, 100, stdin);
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```
int main(void)
{
    int iFd;
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    close(0);
    dup(iFd);
    close(iFd);
    fgets(acBuffer, 100, stdin);
    fputs(acBuffer, stdout);
    return 0;
}
```

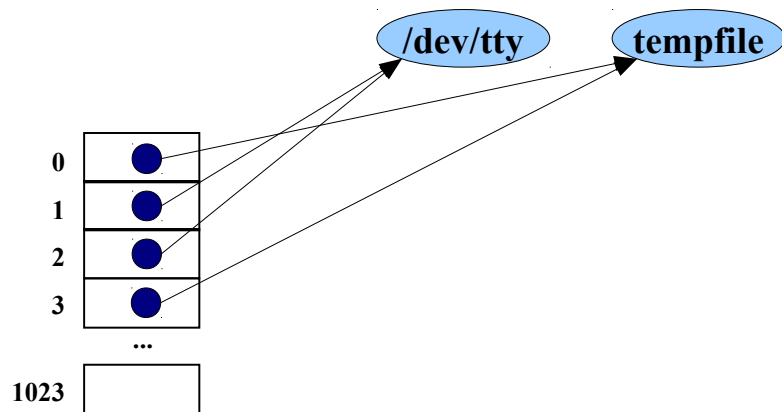
3

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### Trace of testdupin

```
% ./testdupin
```



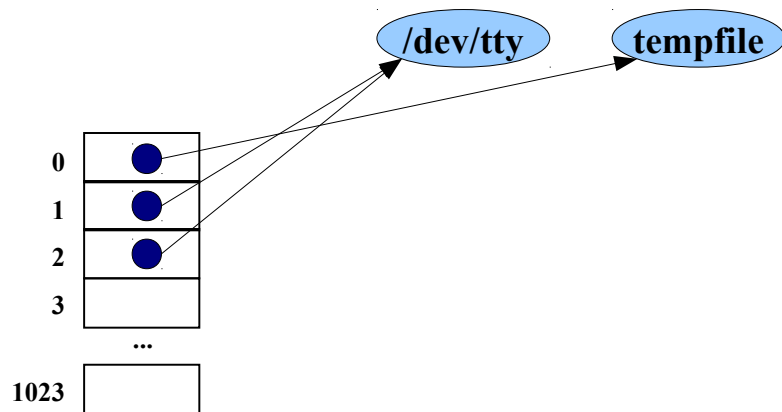
```
int main(void)
{
    int iFd;
    char acBuffer[100];
    iFd ← open("tempfile", O_RDONLY);
    close(0);
    dup(iFd);
    close(iFd);
    fgets(acBuffer, 100, stdin);
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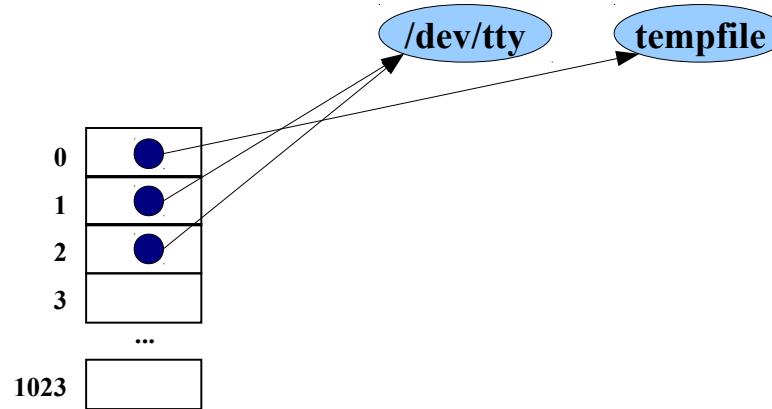


```
int main(void)
{
    int iFd;
    char acBuffer[100];
    iFd ← open("tempfile", O_RDONLY);
    close(0);
    dup(iFd);
    close(iFd);
    fgets(acBuffer, 100, stdin);
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    return 0;
}
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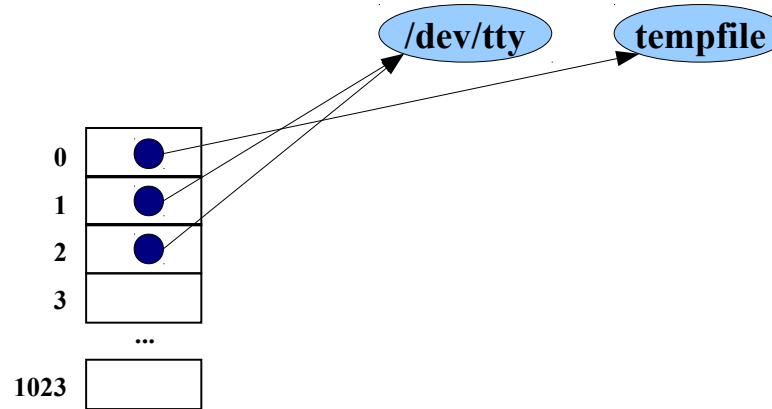


```
int main(void)
{
    int iFd;
    char acBuffer[100];
    iFd ← 3 = open("tempfile", O_RDONLY);
    close(0);
    dup(iFd);
    close(iFd);
    fgets(acBuffer, 100, stdin);
    fputs(acBuffer, stdout);
    return 0;
}
```

Reads from stdin (alias tempfile):  
somedata\n

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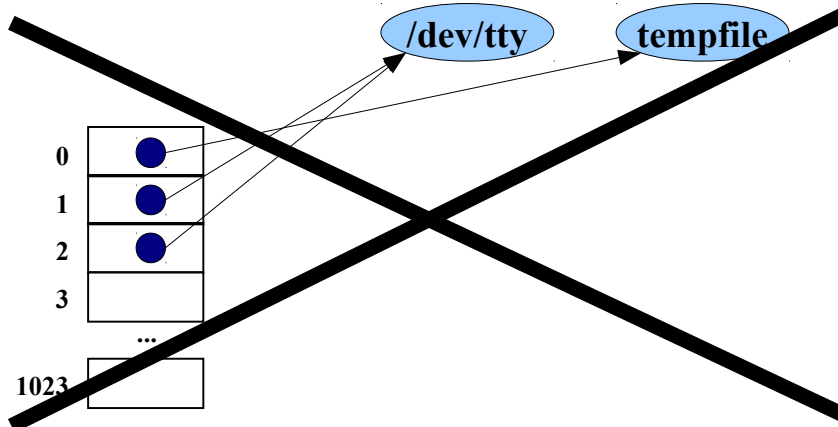


```
int main(void)
{
    int iFd;
    char acBuffer[100];
    iFd ← 3 = open("tempfile", O_RDONLY);
    close(0);
    dup(iFd);
    close(iFd);
    fgets(acBuffer, 100, stdin);
    fputs(acBuffer, stdout);
    return 0;
}
```

Writes to stdout (alias /dev/tty)::  
somedata\n

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```
int main(void)
{
    int iFd;
    char acBuffer[100];
    iFd = open("tempfile", O_RDONLY);
    close(0);
    dup(iFd);
    close(iFd);
    fgets(acBuffer, 100, stdin);
    fputs(acBuffer, stdout);
    return 0;
}
```

The code block is highlighted in light blue and crossed out with a large black 'X'. Annotations include a box with the number '3' pointing to the `close(0);` line, and a box with the text `somedata\n` pointing to the `fputs(acBuffer, stdout);` line.

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