

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

```
% gcc217 testfork.c -o testfork
```

Princeton University  
COS 217: Introduction to Programming Systems  
Trace of testfork

% ./testfork

29285

```
int main(void)
{
    printf("%d parent\n",
           (int) getpid());
    fflush(stdin);
    fflush(stdout);
    fork();
    printf("%d parent and child\n",
           (int) getpid());
    return 0;
}
```

Princeton University  
COS 217: Introduction to Programming Systems  
Trace of testfork

% ./testfork

29285

```
int main(void)
{
    printf("%d parent\n",
           (int) getpid());
    fflush(stdin);
    fflush(stdout);
    fork();
    printf("%d parent and child\n",
           (int) getpid());
    return 0;
}
```

Writes:

29285 parent

Princeton University  
COS 217: Introduction to Programming Systems  
Trace of testfork

```
% ./testfork
```

```
29285
```

```
int main(void)
{
    printf("%d parent\n",
           (int)getPid());
    fflush(stdin);
    fflush(stdout);
    fork();
    printf("%d parent and child\n",
           (int)getPid());
    return 0;
}
```

Princeton University  
COS 217: Introduction to Programming Systems  
Trace of testfork

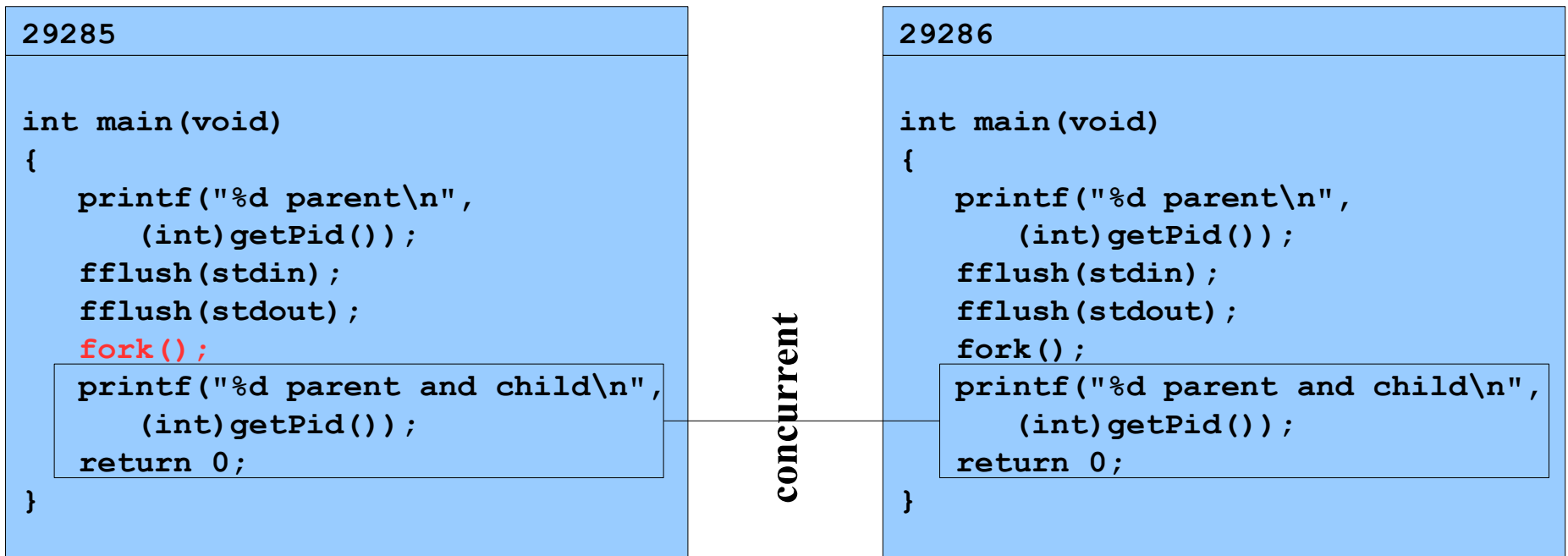
```
% ./testfork
```

```
29285
```

```
int main(void)
{
    printf("%d parent\n",
           (int)getPid());
    fflush(stdin);
    fflush(stdout);
    fork();
    printf("%d parent and child\n",
           (int)getPid());
    return 0;
}
```

Princeton University  
COS 217: Introduction to Programming Systems  
Trace of testfork

```
% ./testfork
```



Assume OS gives CPU to parent

Princeton University  
COS 217: Introduction to Programming Systems  
Trace of testfork

```
% ./testfork
```

```
29285  
  
int main(void)  
{  
    printf("%d parent\n",  
          (int)getPid());  
    fflush(stdin);  
    fflush(stdout);  
    iPid = fork();  
    printf("%d parent and child\n",  
          (int)getPid());  
    return 0;  
}
```

```
29286  
  
int main(void)  
{  
    printf("%d parent\n",  
          (int)getPid());  
    fflush(stdin);  
    fflush(stdout);  
    fork();  
    printf("%d parent and child\n",  
          (int)getPid());  
    return 0;  
}
```

concurrent

Writes:

29285 parent and child

Assume OS gives CPU to parent

Princeton University  
COS 217: Introduction to Programming Systems  
Trace of testfork

% ./testfork

```
29285  
int main(void)  
{  
    printf("%d parent\n",  
          (int) getpid());  
    fflush(stdin);  
    fflush(stdout);  
    fork();  
    printf("%d parent and child\n",  
          (int) getpid());  
    return 0;  
}
```

```
29286  
int main(void)  
{  
    printf("%d parent\n",  
          (int) getpid());  
    fflush(stdin);  
    fflush(stdout);  
    fork();  
    printf("%d parent and child\n",  
          (int) getpid());  
    return 0;  
}
```

concurrent



Princeton University  
COS 217: Introduction to Programming Systems  
Trace of testfork

```
% ./testfork
```

```
29286
```

```
int main(void)
{
    printf("%d parent\n",
           (int) getpid());
    fflush(stdin);
    fflush(stdout);
    fork();
    printf("%d parent and child\n",
           (int) getpid());
    return 0;
}
```

Writes:

```
29286 parent and child
```

Princeton University  
COS 217: Introduction to Programming Systems  
Trace of testfork

```
% ./testfork
```

```
20286  
int main(void)  
{  
    printf("pid parent\n",  
          (int) getpid());  
    fflush(stdin);  
    fflush(stdout);  
    fork();  
    printf("%d parent and child\n",  
          (int) getpid());  
    return 0;  
}
```

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

%

Copyright © 2018 by Robert M. Dondero, Jr.