

Princeton University

COS 217: Introduction to Programming Systems

C Symbolic Constants

Method 1: #define

```
#define START 0
#define INCHARLITERAL 1
#define INSTRINGLITERAL 2
#define MAYBEINCOMMENT 3
#define INCOMMENT 4
#define MAYBEOUTOFCOMMENT 5
#define ESCAPEINCHARLITERAL 6
#define ESCAPEINSTRINGLITERAL 7

int main(void)
{
    int iState;
    ...
    iState = START;
    ...
}
```

Method 2: Enumerations

```
enum State {Start, InCharLiteral, InStringLiteral, MaybeInComment, InComment,
           MaybeOutOfComment, EscapeInCharLiteral, EscapeInStringLiteral};

int main(void)
{
    enum State iState;
    ...
    iState = Start;
    ...
    iState = 0;
    ...
}
```

Method 3: "const" Variables

```
int main(void)
{
    const int iStart = 0;
    const int iInCharLiteral = 1;
    const int iInStringLiteral = 2;
    const int iMaybeInComment = 3;
    const int iInComment = 4;
    const int iMaybeOutOfComment = 5;
    const int iEscapeInCharLiteral = 6;
    const int iEscapeInStringLiteral = 7;
    ...
    int iState;
    ...
    iState = iStart;
    ...
}
```

Note: Compiler is allowed to not allocate storage if it need not.