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: "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.

Method 3: Enumerations

```
int main(void)
{
   enum State {START, INCHARLITERAL, INSTRINGLITERAL, MAYBEINCOMMENT, INCOMMENT,
               MAYBEOUTOFCOMMENT, ESCAPEINCHARLITERAL, ESCAPEINSTRINGLITERAL};
   ...
   enum State iState;
   ...
   iState = START;
   ...
   iState = 0;
   ...
}
```