# CSci 127: Introduction to Computer Science



hunter.cuny.edu/csci

- This lecture will be recorded

# Announcements

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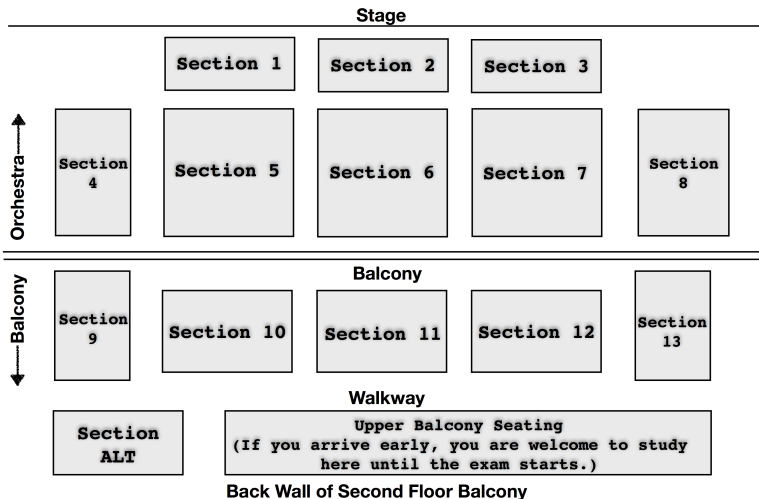  - I will send email when the seating assignments become available.

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  - Just a practice run, this WILL NOT be the same as the real exam, and it will not be graded.

# CSci 127: Introduction to Computer Science



**Stage**

| Section 1 | Section 2 | Section 3 |

**Orchestra**

| Section 4 | Section 5 | Section 6 | Section 7 | Section 8 |

**Balcony**

**Balcony**

| Section 9 | Section 10 | Section 11 | Section 12 | Section 13 |

**Walkway**

| Section ALT | Upper Balcony Seating (If you arrive early, you are welcome to study here until the exam starts.) |

**Back Wall of Second Floor Balcony**

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  *Third: it's a standard question on faculty references.*
  *Industry & graduate schools hate it: don't want someone who falsifies work.*

# Today's Topics

```
//Another C++ program, demonstrating I/O & arithmetic
#include <iostream>
using namespace std;

int main ()
{
   float kg, lbs;
   cout << "Enter kg: ";
   cin >> kg;
   lbs = kg * 2.2;
   cout << endl << "Lbs: " << lbs << "\n\n";
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- Recap: I/O & Definite Loops in C++

- Conditionals in C++

- Indefinite Loops in C++

- Recap: C++ & Python

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  for (i = 0; i < 10; i++) {...}

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- Blocks of code uses '{' and '}'.
- Commands generally end in ';'.

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- Recap: I/O & Definite Loops in C++
- **Conditionals in C++**
- Indefinite Loops in C++
- Recap: C++ & Python

# Challenge:

Predict what the following pieces of code will do:

```cpp
//Demonstrates conditionals
#include <iostream>
using namespace std;

int main ()
{
    int yearBorn;
    cout << "Enter year born: ";
    cin >> yearBorn;
    if (yearBorn < 1946)
    {
        cout << "Greatest Generation";
    }
    else if (yearBorn <= 1964)
    {
        cout << "Baby Boomer";
    }
    else if (yearBorn <= 1984)
    {
        cout << "Generation X";
    }
    else if (yearBorn <= 2004)
    {
        cout << "Millennial";
    }
    else
    {
        cout << "TBD";
    }

    return 0;
```

```cpp
using namespace std;

int main ()
{
    string conditions = "blowing snow";
    int winds = 100;
    float visibility = 0.2;

    if ( ( (winds > 35) && (visibility < 0.25) ) &&
         ( (conditions == "blowing snow") ||
           (conditions == "heavy snow") ) )
        cout << "Blizzard!\n";

    string origin = "South Pacific";

    if (winds > 74)
        cout << "Major storm, called a ";
    if ((origin == "Indian Ocean")
        ||(origin == "South Pacific"))
        cout << "cyclone.\n";
    else if (origin == "North Pacific")
        cout << "typhoon.\n";
    else
        cout << "hurricane.\n";
```

# C++ Demo

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(Demo with `onlinegdb`)

# Conditionals

General format:

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if ( *logical expression* )
{

    *command1;*

    *...*
}
else if ( *logical expression* )
{

    *command1;*

    *...*
}
else
{

    *command1;*

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# Logical Operators in C++

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### and (&&)

| in1 | | in2 | returns: |
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| False | && | False | False |
| False | && | True | False |
| True | && | False | False |
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**not (!)**

| | in1 | returns: |
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# Lecture Quiz

- Log-in to Gradescope
- Find LECTURE 13 Quiz
- Take the quiz
- **You have 3 minutes**

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- Conditionals in C++

- **Indefinite Loops in C++**

- Recap: C++ & Python

## Challenge:

Predict what the following pieces of code will do:

```cpp
///While Growth Example
#include <iostream>
using namespace std;

int main ()
{
  int population = 100;
  int year = 0;
  cout << "Year\tPopulation\n";
  while(population < 1000)
  {
    cout << year << "\t\t" << population << "\n";
    population = population * 2;
    year++;
  }
  return 0;
}
```

# C++ Demo

```cpp
///While Growth Example
#include <iostream>
using namespace std;

int main ()
{
  int population = 100;
  int year = 0;
  cout << "Year\tPopulation\n";
  while(population < 1000)
  {
    cout << year << "\t\t" << population << "\n";
    population = population * 2;
    year++;
  }
  return 0;
}
```

(Demo with `onlinegdb`)

# Indefinite Loops: `while`

```
///While Growth Example
#include <iostream>
using namespace std;

int main ()
{
  int population = 100;
  int year = 0;
  cout << "Year\tPopulation\n";
  while(population < 1000)
  {
    cout << year << "\t\t" << population << "\n";
    population = population * 2;
    year++;
  }
  return 0;
}
```

General format:

```
while ( logical expression )
{

    command1;
    command2;
    command3;

    ...

}
```

## Challenge:

Predict what the following piece of code will do:

```cpp
//Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
  int num;
  cout << "Enter an even number: ";
  cin >> num;
  while (num % 2 != 0)
  {
      cout << "\nThat's odd!\n";
      cout << "Enter an even number: ";
      cin >> num;
  }
  cout << "You entered: "
       << num << ".\n";
  return 0;
}
```

# C++ Demo

```cpp
//Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
  int num;
  cout << "Enter an even number: ";
  cin >> num;
  while (num % 2 != 0)
  {
      cout << "\nThat's odd!\n";
      cout << "Enter an even number: ";
      cin >> num;
  }
  cout << "You entered: "
       << num << ".\n";
  return 0;
}
```

(Demo with `onlinegdb`)

# Indefinite Loops: `while`

```cpp
//Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
  int num;
  cout << "Enter an even number: ";
  cin >> num;
  while (num % 2 != 0)
  {
      cout << "\nThat's odd!\n";
      cout << "Enter an even number: ";
      cin >> num;
  }
  cout << "You entered: "
       << num << ".\n";
  return 0;
}
```

General format:

while ( *logical expression* )
{

    *command1;*
    *command2;*
    *command3;*

    *...*

}

## Challenge:

Predict what the following pieces of code will do:

```cpp
//Demonstrates do-while loops
#include <iostream>
using namespace std;

int main ()
{
  int num;
  do
  {
      cout << "Enter an even number: ";
      cin >> num;
  } while (num % 2 != 0);

  cout << "You entered: "
      << num << ".\n";
  return 0;
}
```

# C++ Demo

```cpp
//Demonstrates do-while loops
#include <iostream>
using namespace std;

int main ()
{
  int num;
  do
  {
    cout << "Enter an even number: ";
    cin >> num;
  } while (num % 2 != 0);

  cout << "You entered: "
       << num << ".\n";
  return 0;
}
```

(Demo with `onlinegdb`)

# Indefinite Loops: `do-while`

```cpp
//Demonstrates do-while loops
#include <iostream>
using namespace std;

int main ()
{
  int num;
  do
  {
      cout << "Enter an even number: ";
      cin >> num;
  } while (num % 2 != 0);

  cout << "You entered: "
       << num << ".\n";
  return 0;
}
```

General format:

```
do
{
    command1;
    command2;
    command3;

    ...
} while ( logical expression );
```

# Today's Topics

```
//Another C++ program, demonstrating I/O & arithmetic
#include <iostream>
using namespace std;

int main ()
{
  float kg, lbs;
  cout << "Enter kg: ";
  cin >> kg;
  lbs = kg * 2.2;
  cout << endl << "Lbs: " << lbs << "\n\n";
  return 0;
}
```

- Recap: I/O & Definite Loops in C++
- Conditionals in C++
- Indefinite Loops in C++
- **Recap: C++ & Python**

# Recap: C++ Control Structures

- I/O:

```cpp
//Another C++ program; Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
    int i,j;
    for (i = 0; i < 4; i++)
    {
        cout << "The world turned upside down...\n";
    }

    for (j = 10; j > 0; j--)
    {
        cout << j << " ";
    }
    cout << "Blast off!!" << endl;

    return 0;
}
```

# Recap: C++ Control Structures

- I/O: `cin >> ...;`

```
//Another C++ program; Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
  int i,j;
  for (i = 0; i < 4; i++)
  {
      cout << "The world turned upside down...\n";
  }

  for (j = 10; j > 0; j--)
  {
      cout << j << " ";
  }
  cout << "Blast off!!" << endl;

  return 0;
}
```

# Recap: C++ Control Structures

- I/O: cin >> ...; & cout << ...;

```cpp
//Another C++ program; Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
    int i,j;
    for (i = 0; i < 4; i++)
    {
        cout << "The world turned upside down...\n";
    }

    for (j = 10; j > 0; j--)
    {
        cout << j << " ";
    }
    cout << "Blast off!!" << endl;

    return 0;
}
```

# Recap: C++ Control Structures

- I/O: `cin >> ...;` & `cout << ...;`
- Definite loops:

```cpp
//Another C++ program; Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
  int i,j;
  for (i = 0; i < 4; i++)
  {
      cout << "The world turned upside down...\n";
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  for (j = 10; j > 0; j--)
  {
      cout << j << " ";
  }
  cout << "Blast off!!" << endl;

  return 0;
}
```

# Recap: C++ Control Structures

- I/O: cin >> ...; & cout << ...;
- Definite loops:
  ```
  for (i = 0; i < 10; i++)
  {
      ...
  }
  ```

```
//Another C++ program; Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
  int i,j;
  for (i = 0; i < 4; i++)
  {
      cout << "The world turned upside down...\n";
  }

  for (j = 10; j > 0; j--)
  {
      cout << j << " ";
  }
  cout << "Blast off!!" << endl;

  return 0;
}
```

# Recap: C++ Control Structures

- I/O: `cin >> ...;` & `cout << ...;`

- Definite loops:
  ```
  for (i = 0; i < 10; i++)
  {
       ...
  }
  ```

- Conditionals:

```cpp
//Another C++ program; Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
  int i,j;
  for (i = 0; i < 4; i++)
  {
      cout << "The world turned upside down...\n";
  }

  for (j = 10; j > 0; j--)
  {
      cout << j << " ";
  }
  cout << "Blast off!!" << endl;

  return 0;
}
```

# Recap: C++ Control Structures

- I/O: `cin >> ...;` & `cout << ...;`

- Definite loops:
  ```
  for (i = 0; i < 10; i++)
  {
      ...
  }
  ```

- Conditionals:
  ```
  if (logical expression)
  {
      ...
  }
  else
  {
      ...
  }
  ```

```cpp
//Another C++ program; Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
    int i,j;
    for (i = 0; i < 4; i++)
    {
        cout << "The world turned upside down...\n";
    }

    for (j = 10; j > 0; j--)
    {
        cout << j << " ";
    }
    cout << "Blast off!!" << endl;

    return 0;
}
```

# Recap: C++ Control Structures

- I/O: `cin >> ...;` & `cout << ...;`

- Definite loops:
  ```
  for (i = 0; i < 10; i++)
  {
      ...
  }
  ```

```
//Another C++ program; Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
  int i,j;
  for (i = 0; i < 4; i++)
  {
      cout << "The world turned upside down...\n";
  }

  for (j = 10; j > 0; j--)
  {
      cout << j << " ";
  }
  cout << "Blast off!!" << endl;

  return 0;
}
```

- Conditionals:
  ```
  if (logical expression)
  {
      ...
  }
  else
  {
      ...
  }
  ```

- Indefinite loops:

# Recap: C++ Control Structures

- I/O: `cin >> ...;` & `cout << ...;`

- Definite loops:
  ```
  for (i = 0; i < 10; i++)
  {
      ...
  }
  ```

```cpp
//Another C++ program; Demonstrates loops
#include <iostream>
using namespace std;

int main ()
{
  int i,j;
  for (i = 0; i < 4; i++)
  {
      cout << "The world turned upside down...\n";
  }

  for (j = 10; j > 0; j--)
  {
      cout << j << " ";
  }
  cout << "Blast off!!" << endl;

  return 0;
}
```

- Conditionals:
  ```
  if (logical expression)
  {
      ...
  }
  else
  {
      ...
  }
  ```

- Indefinite loops:
  ```
  while (logical expression)
  {
      ...
  }
  ```

# Challenge: Definite Loops in Python & C++

- *Rewrite this program in C++:*

  ```
  for i in range(2017, 2000, -2):
      print("Year is", i)
  ```

- *Rewrite this program in Python:*

  ```
  #include <iostream>
  using namespace std;
  int main()
  {
    for (int i = 1; i < 50; i++)
    {
      cout << i << endl;
    }
    return 0;
  }
  ```

# Challenge: Definite Loops in Python & C++

- *Rewrite this program in C++:*

```
for i in range(2017, 2000, -2):
    print("Year is", i)
```

# Challenge: Definite Loops in Python & C++

- *Rewrite this program in C++:*

```python
for i in range(2017, 2000, -2):
    print("Year is", i)
```

```cpp
#include <iostream>
using namespace std;
```

# Challenge: Definite Loops in Python & C++

- *Rewrite this program in C++:*

```python
for i in range(2017, 2000, -2):
    print("Year is", i)
```

```cpp
#include <iostream>
using namespace std;
int main()
```

# Challenge: Definite Loops in Python & C++

- *Rewrite this program in C++:*

```python
for i in range(2017, 2000, -2):
    print("Year is", i)
```

```cpp
#include <iostream>
using namespace std;
int main()
{
```

# Challenge: Definite Loops in Python & C++

- *Rewrite this program in C++:*

```python
for i in range(2017, 2000, -2):
    print("Year is", i)
```

```cpp
#include <iostream>
using namespace std;
int main()
{
  for (int i = 2017; i > 2000; i=i-2)
```

# Challenge: Definite Loops in Python & C++

- *Rewrite this program in C++:*

```python
for i in range(2017, 2000, -2):
    print("Year is", i)
```

```cpp
#include <iostream>
using namespace std;
int main()
{
  for (int i = 2017; i > 2000; i=i-2)
  {
    cout << "Year is " << i << endl;
```

# Challenge: Definite Loops in Python & C++

- *Rewrite this program in C++:*

```python
for i in range(2017, 2000, -2):
    print("Year is", i)
```

```cpp
#include <iostream>
using namespace std;
int main()
{
  for (int i = 2017; i > 2000; i=i-2)
  {
    cout << "Year is " << i << endl;
  }
  return 0;
}
```

# Challenge: Definite Loops in Python & C++

- *Rewrite this program in Python:*

```cpp
#include <iostream>
using namespace std;
int main()
{
  for (int i = 1; i < 50; i++)
  {
    cout << i << endl;
  }
  return 0;
}
```

# Challenge: Definite Loops in Python & C++

- *Rewrite this program in Python:*

```cpp
#include <iostream>
using namespace std;
int main()
{
  for (int i = 1; i < 50; i++)
  {
    cout << i << endl;
  }
  return 0;
}
```

```python
for i in range(1, 50):
```

# Challenge: Definite Loops in Python & C++

- *Rewrite this program in Python:*

```cpp
#include <iostream>
using namespace std;
int main()
{
  for (int i = 1; i < 50; i++)
  {
    cout << i << endl;
  }
  return 0;
}
```

```python
for i in range(1, 50):
    print(i)
```

# Challenge: Conditionals in Python & C++

- *Python: what is the output?*
  ```
  year = 2016
  if year % 4 == 0 and \
     (not (year % 100 == 0) or (year % 400 == 0)):
       print("Leap!!")
  print("Year")
  ```

- *Write a C++ program that asks the user the number of times they plan to ride transit this week. Your program should then print if it is cheaper to buy single ride metro cards or 7-day unlimited card.*
  *(The 7-day card is $33.00, and the cost of single ride, with bonus, is $2.75).*

# Challenge: Conditionals in Python & C++

- *Python: what is the output?*

```python
year = 2016
if year % 4 == 0 and \
    (not (year % 100 == 0) or (year % 400 == 0)):
    print("Leap!!")
print("Year")
```

# Challenge: Conditionals in Python & C++

- *Python: what is the output?*
  ```python
  year = 2016
  if year % 4 == 0 and \
     (not (year % 100 == 0) or (year % 400 == 0)):
      print("Leap!!")
  print("Year")  year = 2016
  ```

  ```python
  if TRUE and \
     (not (year % 100 == 0) or (year % 400 == 0)):
      print("Leap!!")
  print("Year")
  ```

# Challenge: Conditionals in Python & C++

- *Python: what is the output?*

```python
year = 2016
if year % 4 == 0 and \
   (not (year % 100 == 0) or (year % 400 == 0)):
    print("Leap!!")
print("Year")
```

# Challenge: Conditionals in Python & C++

- *Python: what is the output?*
  ```
  year = 2016
  if year % 4 == 0 and \
     (not (year % 100 == 0) or (year % 400 == 0)):
      print("Leap!!")
  print("Year")
  ```

  ```
  year = 2016
  if TRUE and \
     (not FALSE or (year % 400 == 0)):
      print("Leap!!")
  print("Year")
  ```

# Challenge: Conditionals in Python & C++

- *Python: what is the output?*
  ```
  year = 2016
  if year % 4 == 0 and \
     (not (year % 100 == 0) or (year % 400 == 0)):
      print("Leap!!")
  print("Year")
  ```

# Challenge: Conditionals in Python & C++

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```python
year = 2016
if year % 4 == 0 and \
    (not (year % 100 == 0) or (year % 400 == 0)):
     print("Leap!!")
print("Year")
```

```python
year = 2016
if TRUE and \
    (TRUE or (year % 400 == 0)):
     print("Leap!!")
print("Year")
```

# Challenge: Conditionals in Python & C++

- *Python: what is the output?*
  ```python
  year = 2016
  if year % 4 == 0 and \
      (not (year % 100 == 0) or (year % 400 == 0)):
        print("Leap!!")
  print("Year")
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# Challenge: Conditionals in Python & C++

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year = 2016
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    print("Leap!!")
print("Year")
```

```python
year = 2016
if TRUE and \
   (TRUE or FALSE):
    print("Leap!!")
print("Year")
```

# Challenge: Conditionals in Python & C++

- *Python: what is the output?*
  ```python
  year = 2016
  if year % 4 == 0 and \
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        print("Leap!!")
  print("Year")
  ```

  ```python
  year = 2016
  if TRUE and \
      (TRUE or FALSE):
        print("Leap!!")
  print("Year")
  ```

# Challenge: Conditionals in Python & C++

- *Python: what is the output?*

```python
year = 2016
if year % 4 == 0 and \
   (not (year % 100 == 0) or (year % 400 == 0)):
    print("Leap!!")
print("Year")
```

```python
year = 2016
if TRUE and \
   (TRUE):
    print("Leap!!")
print("Year")
```

# Challenge: Conditionals in Python & C++

- *Python: what is the output?*

```python
year = 2016
if year % 4 == 0 and \
   (not (year % 100 == 0) or (year % 400 == 0)):
    print("Leap!!")
print("Year")
```

```python
year = 2016
if TRUE:
    print("Leap!!")
print("Year")
```

# Challenge: Conditionals in Python & C++

- *Python: what is the output?*

```python
year = 2016
if year % 4 == 0 and \
    (not (year % 100 == 0) or (year % 400 == 0)):
     print("Leap!!")
print("Year")
```

```python
year = 2016
if TRUE:
     print("Leap!!")
print("Year")
```

Prints: Leap!
Year

# Challenge: Conditionals in Python & C++

- *Your program should then print if it is cheaper to buy single ride metro cards ($2.75 per ride) or 7-day unlimited card ($33.00).*

  ```cpp
  #include <iostream>
  using namespace std;
  ```

# Challenge: Conditionals in Python & C++

- *Your program should then print if it is cheaper to buy single ride metro cards ($2.75 per ride) or 7-day unlimited card ($33.00).*

```cpp
#include <iostream>
using namespace std;
int main()
```

# Challenge: Conditionals in Python & C++

- *Your program should then print if it is cheaper to buy single ride metro cards ($2.75 per ride) or 7-day unlimited card ($33.00).*

```cpp
#include <iostream>
using namespace std;
int main()
{
    int rides;
```

# Challenge: Conditionals in Python & C++

- *Your program should then print if it is cheaper to buy single ride metro cards ($2.75 per ride) or 7-day unlimited card ($33.00).*

```cpp
#include <iostream>
using namespace std;
int main()
{
  int rides;
  cout << "Enter number of rides:";
```

# Challenge: Conditionals in Python & C++

- *Your program should then print if it is cheaper to buy single ride metro cards ($2.75 per ride) or 7-day unlimited card ($33.00).*

```cpp
#include <iostream>
using namespace std;
int main()
{
  int rides;
  cout << "Enter number of rides:";
  cin >> rides;
```

# Challenge: Conditionals in Python & C++

- *Your program should then print if it is cheaper to buy single ride metro cards ($2.75 per ride) or 7-day unlimited card ($33.00).*

```cpp
#include <iostream>
using namespace std;
int main()
{
  int rides;
  cout << "Enter number of rides:";
  cin >> rides;
  if (2.75 * rides < 33.00)
```

# Challenge: Conditionals in Python & C++

- *Your program should then print if it is cheaper to buy single ride metro cards ($2.75 per ride) or 7-day unlimited card ($33.00).*

```
#include <iostream>
using namespace std;
int main()
{
  int rides;
  cout << "Enter number of rides:";
  cin >> rides;
  if (2.75 * rides < 33.00)
  {
    cout << "Cheaper to buy single ride metro cards.\n";
  }
```

# Challenge: Conditionals in Python & C++

- *Your program should then print if it is cheaper to buy single ride metro cards ($2.75 per ride) or 7-day unlimited card ($33.00).*

```cpp
#include <iostream>
using namespace std;
int main()
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  int rides;
  cout << "Enter number of rides:";
  cin >> rides;
  if (2.75 * rides < 33.00)
  {
    cout << "Cheaper to buy single ride metro cards.\n";
  }
  else
```

# Challenge: Conditionals in Python & C++

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int main()
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  int rides;
  cout << "Enter number of rides:";
  cin >> rides;
  if (2.75 * rides < 33.00)
  {
    cout << "Cheaper to buy single ride metro cards.\n";
  }
  else
  {
    cout << "Cheaper to buy 7-day unlimited card.\n";
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```

# Challenge: Conditionals in Python & C++

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#include <iostream>
using namespace std;
int main()
{
  int rides;
  cout << "Enter number of rides:";
  cin >> rides;
  if (2.75 * rides < 33.00)
  {
    cout << "Cheaper to buy single ride metro cards.\n";
  }
  else
  {
    cout << "Cheaper to buy 7-day unlimited card.\n";
  }
  return 0;
}
```

# Challenge: Indefinite Loops in Python & C++

- Write Python code that repeatedly prompts for a non-empty string.

- Write C++ code that repeatedly prompts until an odd number is entered.

# Challenge: Indefinite Loops in Python & C++

- Write Python code that repeatedly prompts for a non-empty string.

# Challenge: Indefinite Loops in Python & C++

- Write Python code that repeatedly prompts for a non-empty string.

```python
s = ""
```

# Challenge: Indefinite Loops in Python & C++

- Write Python code that repeatedly prompts for a non-empty string.

```
s = ""
while s == "":
```

# Challenge: Indefinite Loops in Python & C++

- Write Python code that repeatedly prompts for a non-empty string.

```python
s = ""
while s == "":
  s = input("Enter a non-empty string:  ")
```

# Challenge: Indefinite Loops in Python & C++

- Write Python code that repeatedly prompts for a non-empty string.

```python
s = ""
while s == "":
  s = input("Enter a non-empty string:  ")
print("You entered:  ", s)
```

# Challenge: Indefinite Loops in Python & C++

- Write Python code that repeatedly prompts for a non-empty string.

```python
s = ""
while s == "":
  s = input("Enter a non-empty string:  ")
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```

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print("You entered:  ", s)
```

- Write C++ code that repeatedly prompts until an odd number is entered.

```cpp
#include <iostream>
using namespace std;
```

# Challenge: Indefinite Loops in Python & C++

- Write Python code that repeatedly prompts for a non-empty string.

```python
s = ""
while s == "":
  s = input("Enter a non-empty string:  ")
print("You entered:  ", s)
```

- Write C++ code that repeatedly prompts until an odd number is entered.

```cpp
#include <iostream>
using namespace std;
int main()
```

# Challenge: Indefinite Loops in Python & C++

- Write Python code that repeatedly prompts for a non-empty string.

```python
s = ""
while s == "":
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print("You entered:  ", s)
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- Write C++ code that repeatedly prompts until an odd number is entered.

```cpp
#include <iostream>
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while s == "":
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# Weekly Reminders!



Before next lecture, don't forget to:

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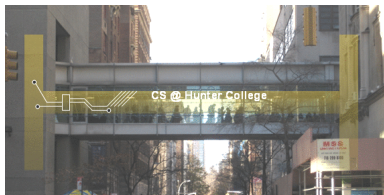- Schedule an appointment to take the Quiz in lab 1001E Hunter North

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