

DefinitionWhat is a set? Well, simply put, it's a **collection**.

Set of prime numbers: {2, 3, 5, 7, 11, 13, 17}

Positive multiples of 3 that are less than 10: {3, 6, 9}

iset64

1. Empty set $a = \{ \}$
2. The set we are implementing will have numbers between 0 to 63 only
3. In sets it does not matter what order the elements are in
Example: {1,2,3,4} is the same set as {3,1,4,2}
4. Number of elements in the above set = 4
5. In our set minimum number of element is 0 - Empty set
maximum number of element is 64
and the elements will be between 0 to 63

1

Adding an element to set
 $a = \{1, 2\}$
 $a += 5 = \{1, 2, 5\}$
 $a += \{10, 63\} = \{0, 1, 2, 5, 63\}$

2

Removing an element
 $a = \{1, 6, 10\}$
 $a -= 6 = \{1, 10\}$

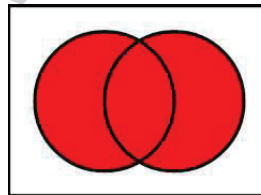
What to submit?

1. iset64test.cpp cannot be modified. All tests must pass
2. Submit as a hardcopy
 1. iset64.h
 2. iset64.cpp
 3. Output as a pdf file
 4. A word doc that explains
 1. Data structure used
 2. Algorithms used for all the 6 methods above

3

Union of sets
(overload with +)

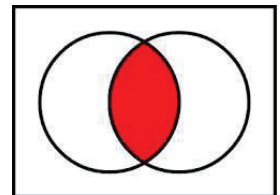
$$\begin{pmatrix} 4 \\ 1 \end{pmatrix} 60 + \begin{pmatrix} 5 \\ 1 \end{pmatrix} = \begin{pmatrix} 4 & 5 \\ 1 & 60 \end{pmatrix}$$



4

Intersection of sets
(overload with *)

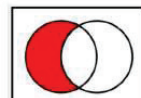
$$\begin{pmatrix} 4 \\ 1 \end{pmatrix} 60 * \begin{pmatrix} 5 \\ 1 \end{pmatrix} = \begin{pmatrix} 1 \end{pmatrix}$$



5

Difference of sets
(overload with -)

$$\begin{pmatrix} 4 \\ 1 \end{pmatrix} 60 - \begin{pmatrix} 5 \\ 1 \end{pmatrix} = \begin{pmatrix} 4 \\ 60 \end{pmatrix}$$



6

Is set equal?
(overload ==)

$$\begin{pmatrix} 1 & 4 & 6 \end{pmatrix} == \begin{pmatrix} 4 & 1 & 6 \end{pmatrix}$$

Figure 7.14: Set

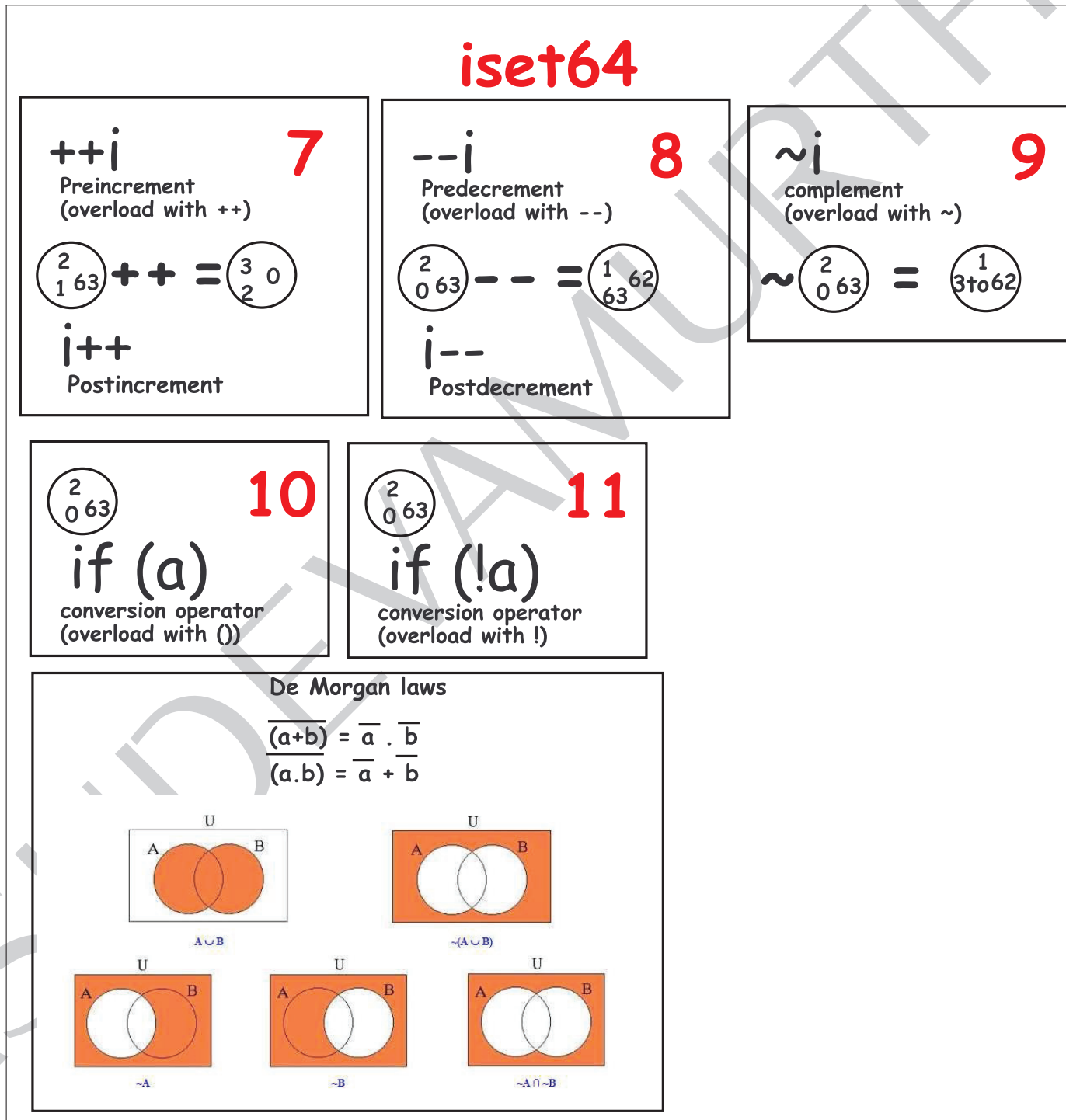


Figure 7.15: Set