Bachelor of IT (Computer Science)
Assignment Title
Course

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1 Algorithm Design

1.1 Jobs ADT

1.1.1 IsValidId Method

This method checks whether a provided job ID is valid. It achieves this by checking that the provided ID is greater than the minimum valid ID (1) and less than the maximum valid ID (999). If the ID is meets these criteria, the method returns true indicating the ID is valid, otherwise it returns false indicating the ID is invalid.

ALGORITHM *IsValidId(v)*
// Given a job ID (v)
// Returns True if v is a valid ID, otherwise returns False
if $v \geq 1$ **and** $v \leq 999$
  return *True*
else
  return *False*

1.1.2 IsValidExecutionTime Method

This method simply checks whether a provided job execution time is valid. It achieves this by simply checking whether the execution time is greater than 0. If the execution time is greater than 0, the method returns true indicating the execution time is valid, otherwise it returns false indicating the execution time is invalid.

ALGORITHM *IsValidExecutionTime(v)*
// Given a job execution time (v)
// Returns True if v is a valid execution time, otherwise returns False
if $v > 0$
  return *True*
else
  return *False*

1.1.3 IsValidPriority Method

This method checks whether a provided job priority is valid. It achieves this by checking that the provided priority is greater than or equal to the minimum valid priority (1) and less than or equal to the maximum valid priority (9). If the priority is meets these criteria, the method returns true indicating the priority is valid, otherwise it returns false indicating the priority is invalid.

ALGORITHM *IsValidPriority(v)*
// Given a job priority (v)
// Returns True if v is a valid priority, otherwise returns False
if $v \geq 1$ **and** $v \leq 9$
  return *True*
else
  return *False*

1.1.4 IsTimeReceived Method

This method checks whether a provided job time received is valid. It achieves this by checking that the provided time received is greater than zero. If the time received is greater than zero, the method returns true indicating the time received is valid, otherwise it returns false indicating the time received is invalid.

ALGORITHM *IsTimeReceived(v)*
// Given a job time received (v)
// Returns True if v is a valid time received, otherwise returns False
if $v > 0$
  return *True*
else
  return *False*