

# Trace Table



# Papers Dock

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**COMPUTER SCIENCE 9618 PAPER 2**

4 The following is pseudocode for a string handling function.

For the built-in functions list, refer to the **Appendix** on page 16.

```

FUNCTION Search(InString : STRING) RETURNS INTEGER

    DECLARE NewString : STRING
    DECLARE Index : INTEGER
    DECLARE NextChar : CHAR
    DECLARE Selected : INTEGER
    DECLARE NewValue : INTEGER

    NewString ← '0'
    Selected ← 0

    FOR Index ← 1 TO LENGTH(InString)

        NextChar ← MID(InString, Index, 1)
        IF NextChar < '0' OR NextChar > '9'
            THEN
                NewValue ← STRING_TO_NUM(NewString)
                IF NewValue > Selected
                    THEN
                        Selected ← NewValue
                    ENDIF
                NewString ← '0'
            ELSE
                NewString ← NewString & NextChar
            ENDIF
        ENDFOR

    RETURN Selected

ENDFUNCTION

```

4 The following pseudocode is a string handling function.

For the built-in functions list, refer to the **Appendix** on page 16.

```

FUNCTION Clean(InString : STRING) RETURNS STRING

    DECLARE NewString : STRING
    DECLARE Index : INTEGER
    DECLARE AfterSpace : BOOLEAN
    DECLARE NextChar : CHAR
    CONSTANT Space = ' '

    AfterSpace ← FALSE
    NewString ← ""

    FOR Index ← 1 TO LENGTH(InString)
        NextChar ← MID(InString, Index, 1)
        IF AfterSpace = TRUE
            THEN
                IF NextChar <> Space
                    THEN
                        NewString ← NewString & NextChar
                        AfterSpace ← FALSE
                    ENDIF
            ELSE
                NewString ← NewString & NextChar
                IF NextChar = Space
                    THEN
                        AfterSpace ← TRUE
                    ENDIF
            ENDIF
        ENDFOR

    RETURN NewString

ENDFUNCTION

```

(a) (i) The following assignment calls the `Search()` function:

```
Result ← Search("12V34V5VV39")
```

Complete the following trace table by performing a dry run of this function call.

The symbol 'V' represents a space character. Use this symbol to represent a space character in the trace table.

[illegible]

[5]

(ii) State the value returned by the function when it is called as shown in **part (a)(i)**.

[1]

(a) (i) Complete the trace table by performing a dry run of the function when it is called as follows:

```
Result ← Clean("XVVVYVandVVZ")
```

The symbol 'V' represents a space character. Use this symbol to represent a space character in the trace table.

[illegible]

[6]

(ii) State the effect of the function `Clean()`.

[1]