Programming Constructs | Revision Mat

Subroutine

- Subroutines are similar to how a contents page works in a book.

- A subroutine is a set of instructions that are designed to perform a frequently used operation within a program.

Variable

- A variable is a memory location.

- Computer programs use variables to store information which can change.

Names

- Code needs to be written so that it can be understood by someone else looking at it.

- One of the easiest ways in which this can be done is to ensure computer programs and the identifiers encompassed within them are named sensibly.

Password-based

- A well-written piece of code should be annotated.

- These comments can be used to add descriptions, notes or explanations which can then be read by anyone who has access to the source code.

Indentation

- Code which is indented typically involves constructs such as loops, if statements, selection etc. all of which require additional tasks to be performed it they're called upon.

- This type of identifier involves moving parts of your code to the right so it's easier to see and read the overall structure of your code.

White Space

- White space can be used in a piece of code to separate different subprograms and functions from each other.

- By using white space it enables code to be read more easily as it shows clearly where subprograms and functions start and finish..

Pseudocode Example

```
declare subroutine FindOddNums
numoutput is integer
highestodd is integer {highest odd number is required}
set numoutput = 0 {set initial value to zero}
input highestodd {user enters their highest odd number}
repeat
        numoutput = numoutput + 1 {increase numoutput by 1}
        output numoutput
until(numoutput = highestodd) {repeat until numoutput is equal to the value of highestodd}
end subroutine
```

Pseudocode Example

```
reg is string
carfound = false

print ("Please enter the registration plate of the car you are looking for")
input reg
for i in range(myList)
                if myList[i] == reg then
                                print("Your car is parked
here")
                                carfound = true
else
                print("Sorry your need to look elsewhere")
end if
```

Code within a computer program is structured in a very similar manner to a book. This is because code can be read in order, just like a book can be read cover-to-cover. Some books however, don't require you to read every section in order and therefore a particular chapter might be selected to be read. A section of a book might also be read multiple times, meaning the process of reading is iterated.

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Programming Constructs | Glossary

Subroutine

- A subroutine is therefore a set of instructions that are designed to perform a frequently used operation within a program.

Variable

- A variable is a memory location. Computer programs use variables to store information which can change.

Annotation

- Comments which can be used to add descriptions, notes or explanations to a piece of code which can then be read by anyone who has access to that piece of code.

Indentation

- A programming identifier which involves moving parts of a piece of code to the right so it's easier to see and read.

White space

- White space can be used in a piece of code to separate different subprograms and functions from each other.

Passing

- When a string is passed through a program you can analyse the contents of all or part of that string.

Concatenation

- The process of combining two strings together is called concatenation.

Comparison

- To compare the contents of two strings we can compare them so they will return a value of true or false if they're the same or not.

Substitution

- The process of replacing part of a string is known as substitution.

Measuring Length

- A string can be measured to see how many characters it contains.

Trimming

- Often when entering strings whitespaces can be left unintentionally at the start or at the end of that string. The trimming technique can be used to remove these whitespaces so they don't take up unnecessary storage space or cause problems when performing other string handling techniques such as string concatenation.

>

- Greater than

<

- Less than

<=

- Less than or equal to

>=

- Greater than or equal to

<>

- Not equal to

==

- The same as

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