Year 9 Computer Science Programming Sequences of Data Knowledge Organiser

Key Word	Definition
Input	Data entered into a program.
Output	Data from the program is shown to the user.
Variable	Used to store information to be referenced and manipulated in a computer program.
Assignment	A statement in computer programming that is used to set a value to a variable name.
Expression	Any valid unit of code that resolves to a value.
Condition	Statements that are created by the programmer which evaluates actions in the program and evaluates if it's True or False.
List	A sequence of several variables, grouped together under a single name.
Index	The position data in the list you are working with.
List Item	The individual pieces of data that are contained in a list.
List Operations	The range of actions that can be performed on the list data type.
List Membership	The contents of the list data type.
Condition	Statements that are created by the programmer which evaluates actions in the program and evaluates if it's True or False.
Iteration	Repeating steps, or instructions , over and over again.
Boolean Expression	Statements that are created by the programmer which evaluates actions in the program and evaluates if it's True or False.
String Operations	The various types of actions that we can use on string variables.

```
if condition :
    block of
    statements
elif condition :
    block of
    statements
else:
    block of
    statements
```

```
1  days = ["Monday", "Tuesday",
2          "Wednesday", "Thursday",
3          "Friday", "Saturday",
4          "Sunday"]
5  day = 3
6  print(days[day])
```

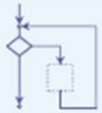
3

days		day	3
0	"Monday"		
1	"Tuesday"		
2	"Wednesday"		
3	"Thursday"		
4	"Friday"		
5	"Saturday"		
6	"Sunday"		

```
days = ["Monday", "Tuesday",
        "Wednesday", "Thursday",
        "Friday", "Saturday", "Sunday"]
print("What day is it today?")
day = int(input())                          Today as integer
today = days[day]                           Today
if day > 0:                                 Yesterday
    yesterday = days[day-1]
else:
    yesterday = days[6]
print("Today it is", today)
print("Yesterday it was", yesterday)
```

list.append(item)	add item at end of list	numbers.append(42)
list.insert(index, item)	add item at index	cities.insert(2, "Oslo")
list.pop(index)	remove item at index	last = values.pop()
list.remove(item)	remove item	countries.remove("Japan")
list.index(item)	search for index of item	where = planets.index("Mars")
list.count(item)	get occurrences of item	nb_the = words.count("the")
list.reverse()	reverse list	values.reverse()
list.sort()	sort list	names.sort()

```
while condition :
    block of
    statements
```



```
for variable in list :
    block of
    statements
```

```
nb_dwarves = len(dwarves)

if seats > len(guests):
  print("Insufficient seats")

while len(rolls) < 100:
  dice = randint(1,6)
  rolls.append(dice)
```

```
4  done = False
5  while done == False:
6    print("Guess the capital:")
7    guess = input()
8    if guess == city:
9      print("You've got it!")
10     done = True
11   elif guess == "":
12     print("It was", city)
13     done = True
14   else:
15     print("Try again")
```

Ask the user

Give feedback

```
1  from ncce.textfile import words
2  wordlist = words('gadsby.txt')
3  length = len(wordlist)
4  print(length, "words in Gadsby")
5  for word in wordlist:
6    if "e" in word:
7      print(word)
```

```
1  word = "lipogram"
2  for item in word:
3    print(item)
```

```
if "chips" in supplies:
  supplies.remove("chips")

if not word in sensored:
  print("You can use", word)

invited = myname in guests
```

```
11 elif city[0] != guess[0]:
12   print("The first letter is", city[0])
13 elif len(guess) != len(city):
14   print("It has", len(city), "letters")
15 elif city[1] not in guess:
16   print("It contains letter", city[1])
17 else:
18   print("Try again")
```

Hint: First letter of city

Hint: Length of city

Hint: Additional letter contained in city

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Learning Graph