



F3.2 Character codes and conversion

Strings, lists and records · GCSE · OCR J277 2.2.2, AQA 8525 3.2.8, Edexcel

1CP2 6.3.3 · about 15 min

Name _____

Class _____

Date _____

What this lesson is about

ord and chr, ASCII, comparing strings, and a Caesar cipher.

- ord and chr
- Letters are in order
- Comparing strings
- Turning digits into numbers, and back
- A secret message

Questions

7 marks in all

1. What does this program print?

[1 mark]

```
print(ord("A"), ord("a"))
```

2. What does this program print?

[1 mark]

```
print(chr(66) + chr(111) + chr(116))
```

3. `ord("A")` is 65. What is `ord("E")` ?

[1 mark]

4. Why is `"Zebra" < "apple"` True?

[1 mark]

- ☐ A Capital Z has a smaller character code than lower-case a
- ☐ B Zebra is a shorter word
- ☐ C Python sorts words backwards
- ☐ D It is False

5. What does this program print?

[1 mark]

```
letter = "Y"  
code = (ord(letter) - ord("A") + 3) % 26  
print(chr(code + ord("A")))
```

6. Which AQA pseudo-code function gives the code for a character?

[1 mark]

- ☐ A CHAR_TO_CODE
- ☐ B ASC
- ☐ C ord
- ☐ D STRING_TO_INT

7. What does this program print?

[1 mark]

```
print("42".isdigit(), "4two".isdigit())
```

The task: shift the letters

Ask `Message?` and print the message with every letter moved **one** place along the alphabet. The task answers `HAL` (the computer in a famous film), and the answer is the name of a famous computer company. The message will be capital letters only. Work it out with `ord` and `chr`.

```
# the two lines every program starts with: the commands, then the robot
from bugbot import *
connect()

message = input("Message? ")
secret = ""
```

Plan your program here, then type it in and press Run.



Do it on the robot

www.bugbotlab.com/learn/f3-2-character-codes-and-conversion/

The simulator checks it and tells you when it passes. Nothing to install, no account.

Challenges

1. Print the whole alphabet with one loop and `chr`, without typing any letters.
2. Make the cipher keep spaces as they are, so that `HELLO ROBOT` works.
3. Play a note for each letter of a name: `tone(ord(letter) * 5, 0.2)`. Which name sounds best?