





مهم جداً

هذا الملف للمراجعة السريعة واخذ الملاحظات عليه فقط ،لانه يحتوي على اقل من 20% مما يتم شرحه في الفيديوهات الاستعجال والاعتماد عليه فقط سوف يجعلك تخسر كميه معلومات وخبرات كثيره

يجب عليك مشاهدة فيديو الدرس كاملا

لاتنسى عمل لايك ومشاركة القناة لتعم الفائدة للجميع
لا تنسونا من دعائكم

ProgrammingAdvices.com

Mohammed Abu-Hadhoud



اساسيات مهمه لكل مبرمج لغات البرمجة Programming Languages



Mohammed Abu-Hadhoud

26+ Years of Experience

MBA, PMOC, PgMP®, PMP®, PMI-RMP®, CM, ITILF, MCPD, MCSB

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We have hundreds of Programming languages



What is Programming Language?

26+ Years of Experience
MBA, PMOC, P-PMO, PMPO, PMT-PMPO, CM, ITTLF, MCPD, MCSO



Programming Language Is only a **TOOL**
to help you write instructions to
computer to perform certain
operation/Task.

Instructions are
called **code**

Write a program to print



Machine Language:

Computer programming language consisting of **binary or hexadecimal instructions** which a computer can respond to **directly**.



Binary

```
01001000 01100101 01101100
01101100 01101111 00101100
00100000 01010111 01101111
01110010 01101100 01100100
00100001
```



Machine Language:

```
0x55 0x89 0xe5 0xe8 0xfc 0xff 0xff 0xff
0x83 0xf8 0x41 0x75 0x68 0x0d 0x00 0x00
0x00 0x00 0xe8 0xfc 0xff 0xff 0xff 0x83
0xb8 0x00 0x04 0xc4 0x00 0x00 0x00 0x89
0xec 0x5d 0xc3
```


Assembly Language

```
push %ebp  
mov %esp,%ebp  
call 0x8048298  
cmp $0x41,%eax  
jne 0x80483ce  
push $0x80484b0  
call 0x80482c8  
add $0x4,%esp  
mov $0x0,%eax  
mov %ebp,%esp  
pop %ebp  
ret
```



Machine Code vs Assembly Language:

Machine Language

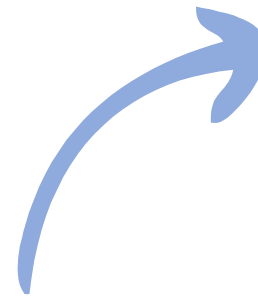
```
0x55 0x89 0xe5 0xe8 0xfc 0xff 0xff 0xff  
0x83 0xf8 0x41 0x75 0x68 0x0d 0x00 0x00  
0x00 0x00 0xe8 0xfc 0xff 0xff 0xff 0x83  
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```



High level Languages



"Basic" Language

```
PRINT "Hello, World!"
```

Machine vs Assembly vs Basic:

Low Level Languages



Machine Code

```
0x55 0x89 0xe5 0xe8 0xfc 0xff 0xff 0xff  
0x83 0xf8 0x41 0x75 0x68 0x0d 0x00 0x00  
0x00 0x00 0xe8 0xfc 0xff 0xff 0xff 0x83  
0xb8 0x00 0x04 0xc4 0x00 0x00 0x00 0x89  
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Assembly Language

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pop %ebp  
ret
```

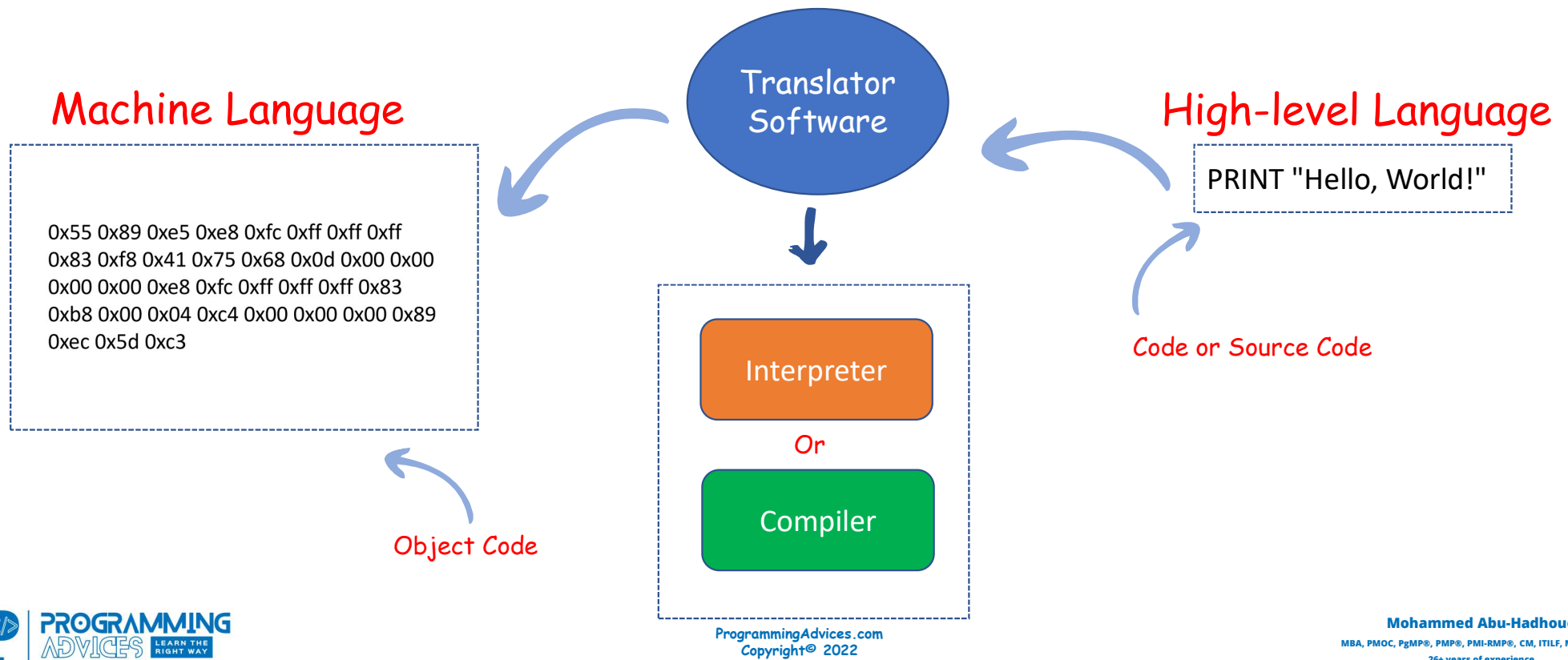
High Level Language



"Basic" Language

```
PRINT "Hello, World!"
```


You need a Translator!



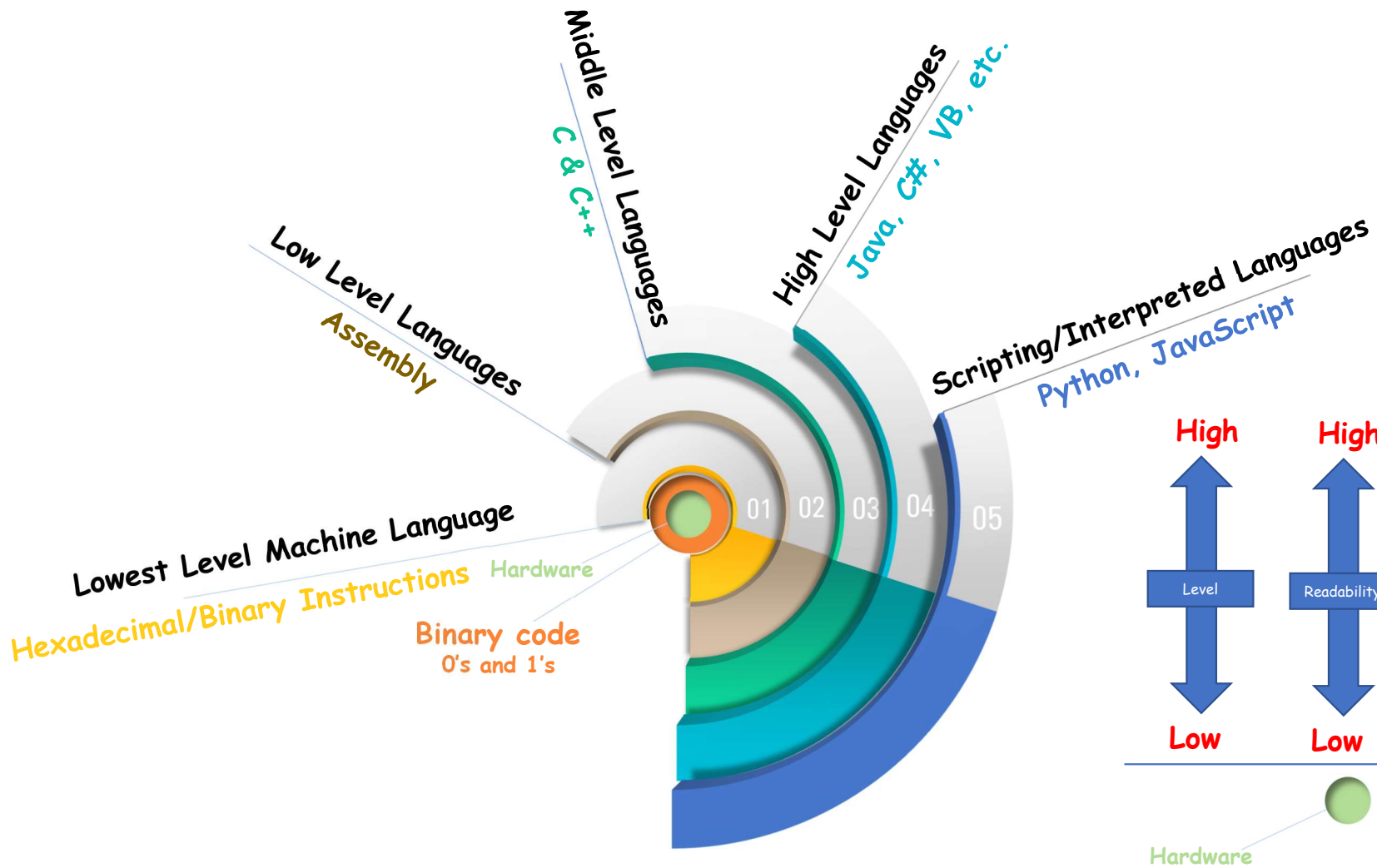
Computer Foundations

Levels of Programming Languages

Mohammed Abu-Hadhoud
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Homework



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Answer the following questions:

- What Programming Language?
- What is Code?
- What is Source Code?
- What is Object Code?
- Why do we need Compilers or Interpreters?
- When is the language considered Fast?
- When is the language considered Slow?
- What is high-level language?
- What is a low-level language?
- When do we consider a language is a human readable?

Thank you 😊