

# MIXTe9N

Born to code

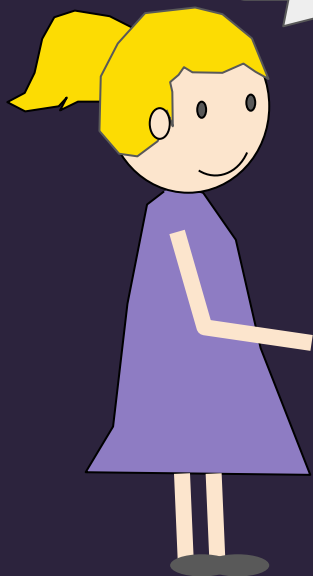


# MIXTe9N

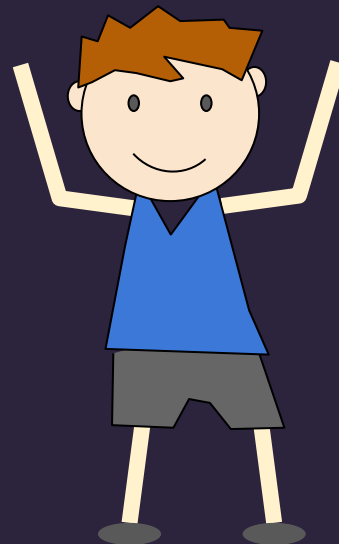
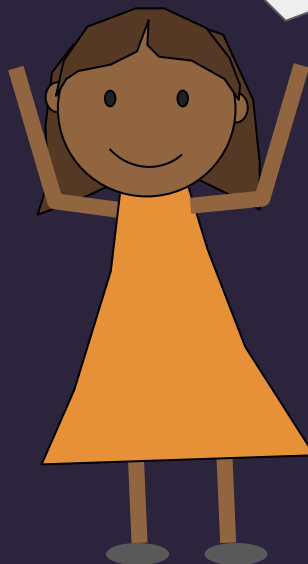
Born to code



Qu'est ce que  
vous faites ?



C'est génial on va  
construire notre  
propre ordinateur

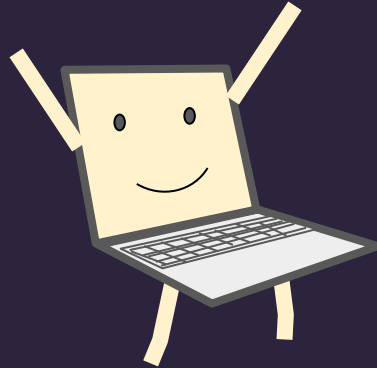


Un ordinateur n'est pas  
intelligent contrairement  
à un humain

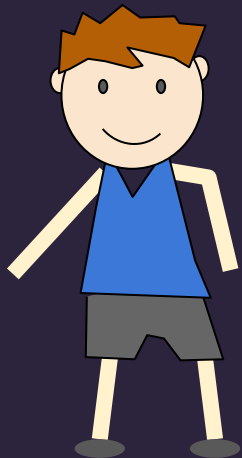


## Par contre il est très rapide pour effectuer des calculs simples

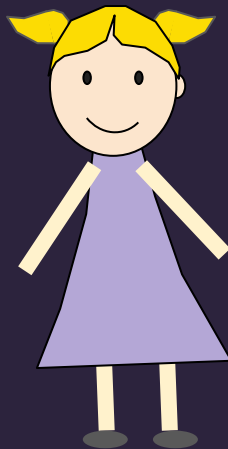
(additions, soustractions, multiplications, divisions, comparaisons...)



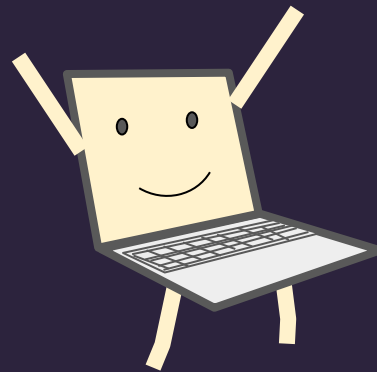
$$6 \times 4 = 24$$



$$7 \times 4 = 28$$
$$7 \times 5 = 35$$

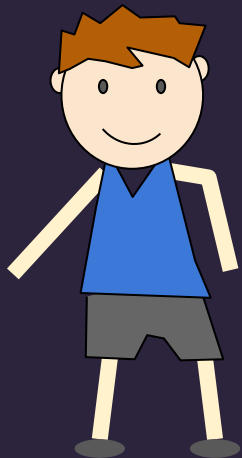
[illegible]

2 milliards d'opération

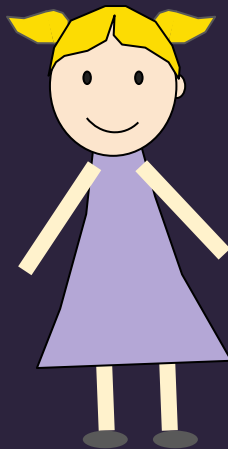


# Nombre opération par seconde

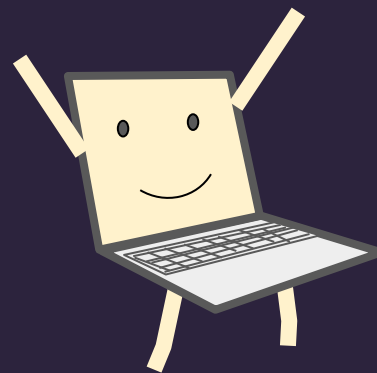
1 opération



2 opérations

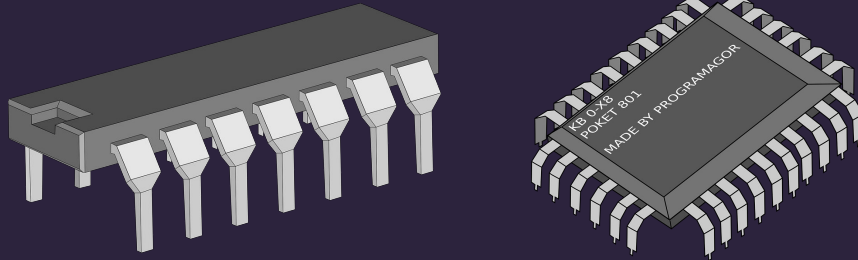


2 000 000 000 000  
opérations



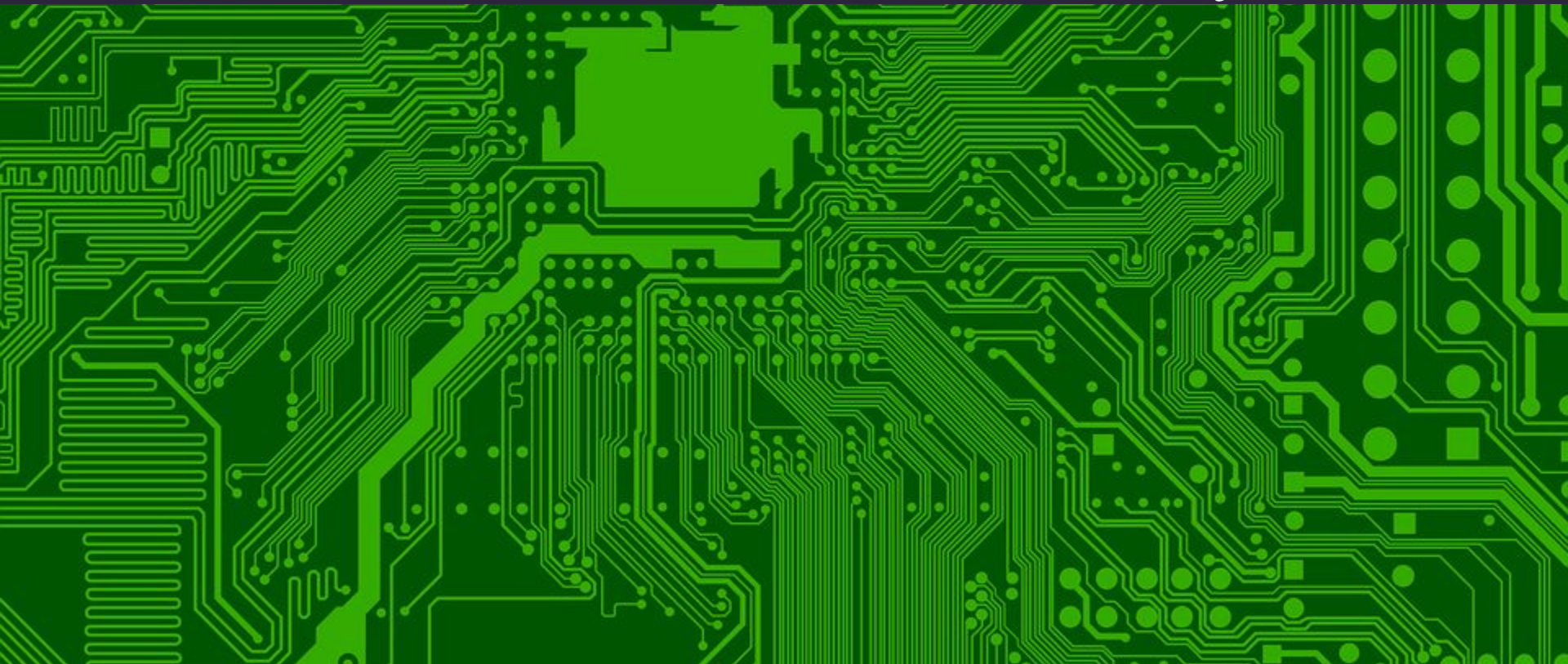
Nombre opération par seconde

La base c'est le circuit intégré ou ce qu'on appelle aussi la puce électronique

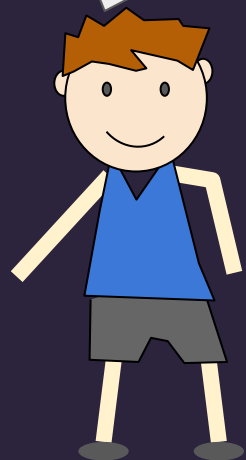




# *Un ensemble de micro fil*



C'est petit  
comment  $1\mu\text{m}$  ?



1 cheveu fait  $50\mu\text{m}$

Taille  
d'une connectique  $1\mu\text{m}$

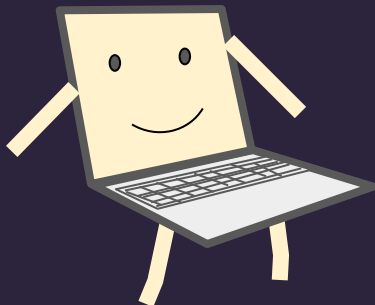
# La base le courant

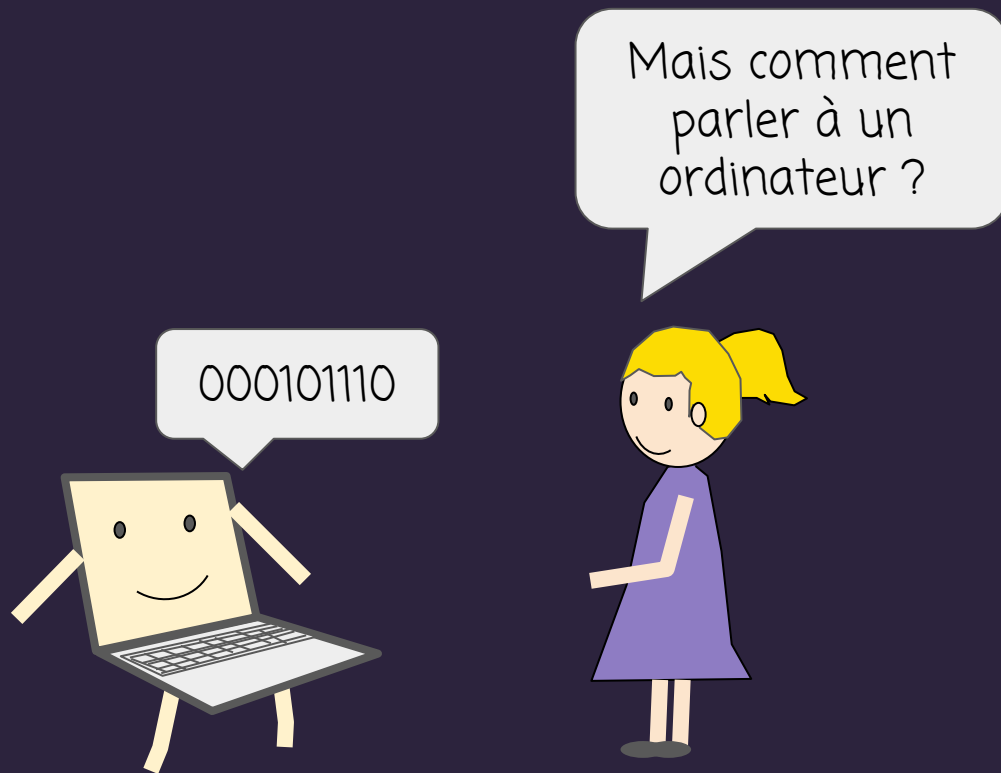


## L'ordinateur ne comprend que les 0 et les 1

Bonjour

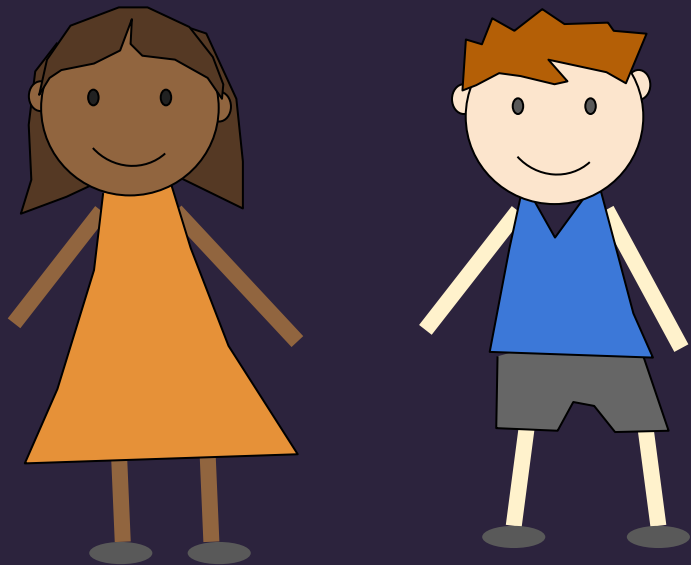
01000010011011110110111001101010011011110111010101110010





On utilise des langages de programmation et chaque mot sera ensuite transformé en 0 et en 1

On se met par 2 ou 3  
par table



# MIXTea9N

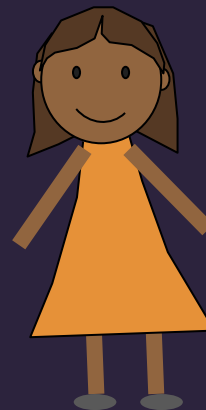
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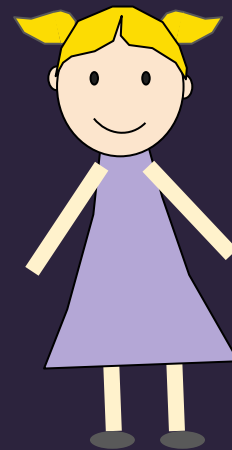


Prends cette  
boîte et ouvre là



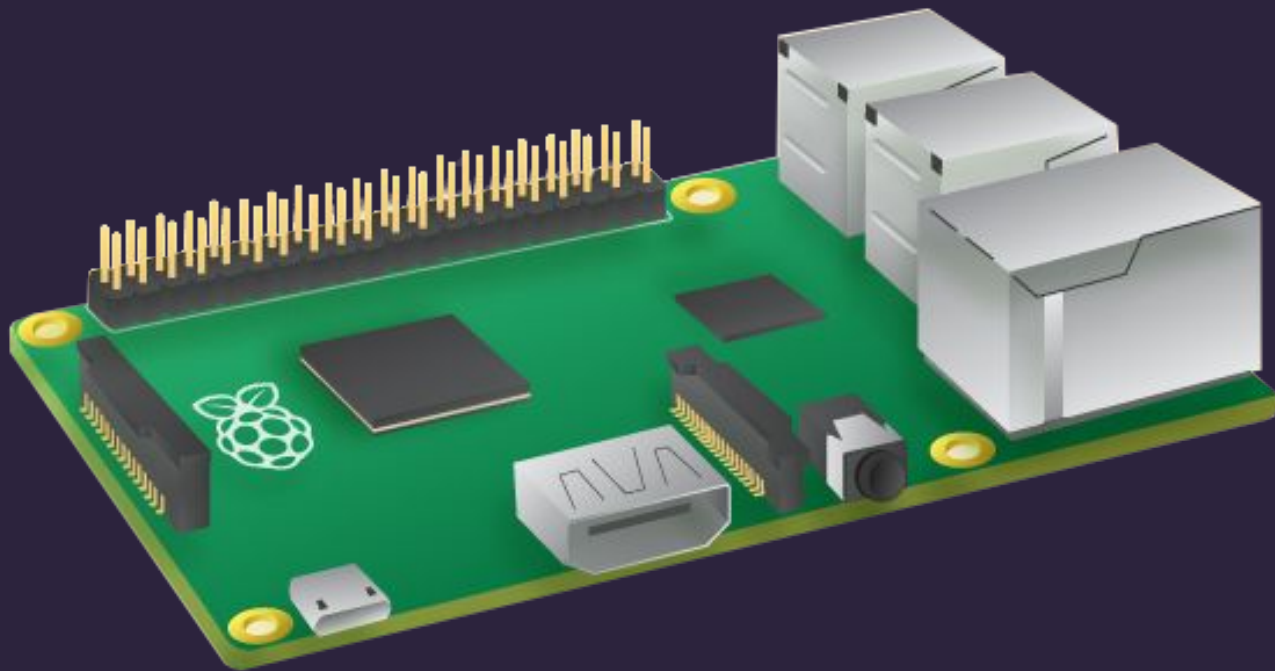


Enlève doucement  
ce qu'il y a dans le  
petit sac.

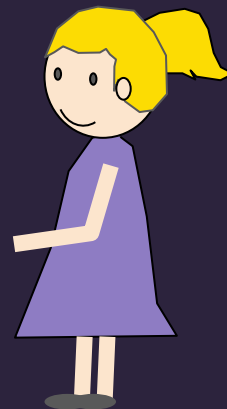
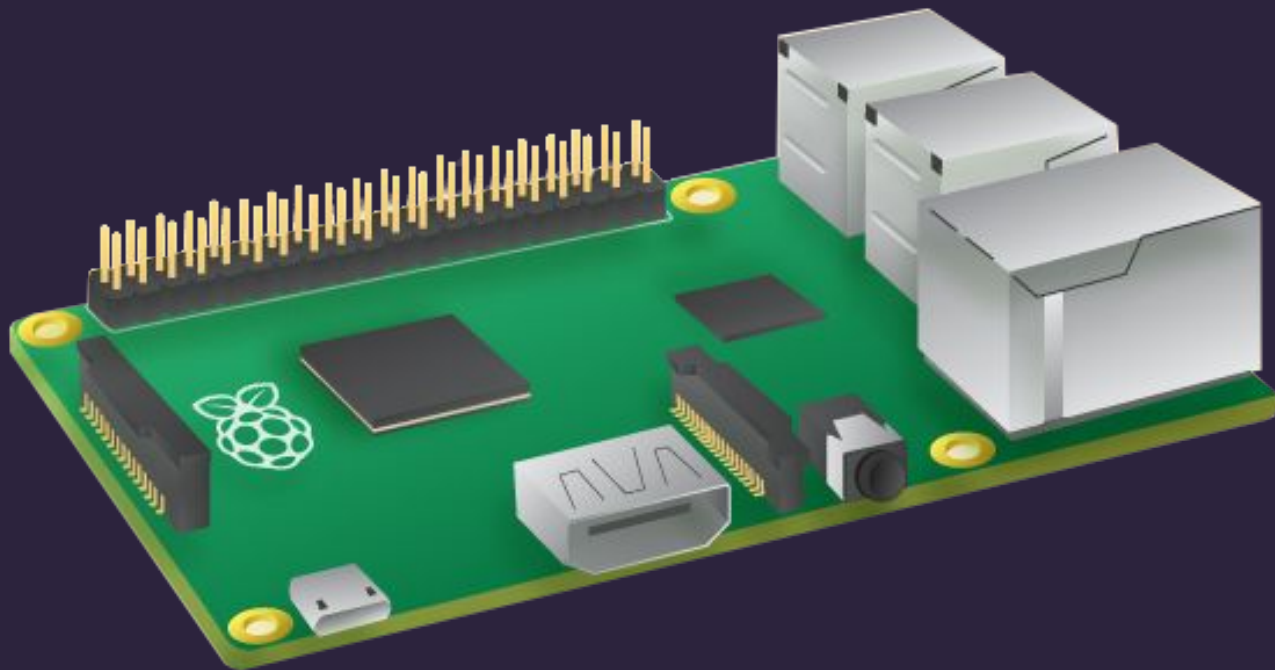


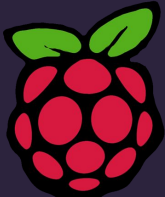
# MIXTe9N

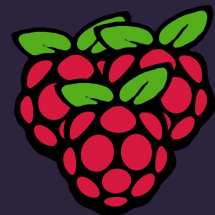
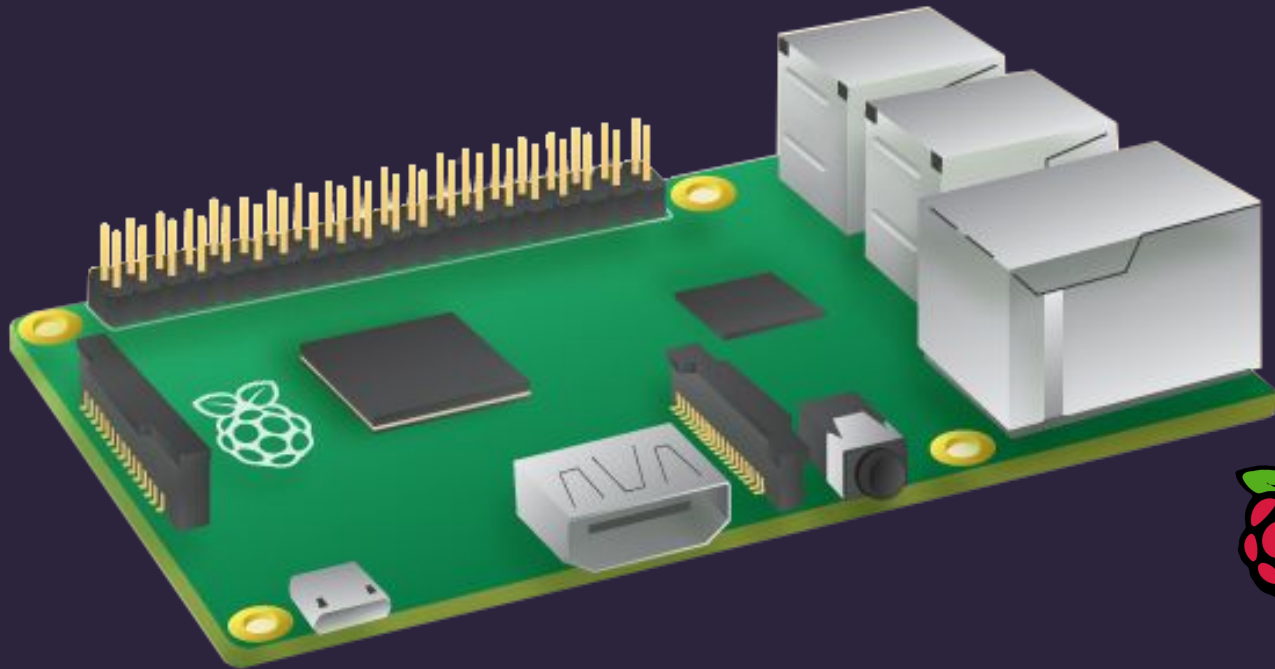
Born to code

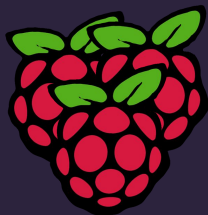


C'est un  
Raspberry Pi

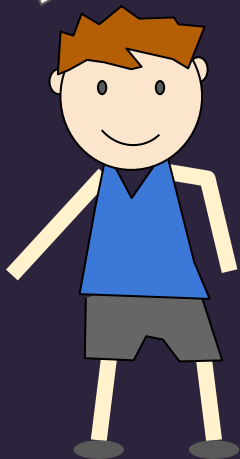


Raspberry =  Pie = tarte





J'adore  
l'informatique

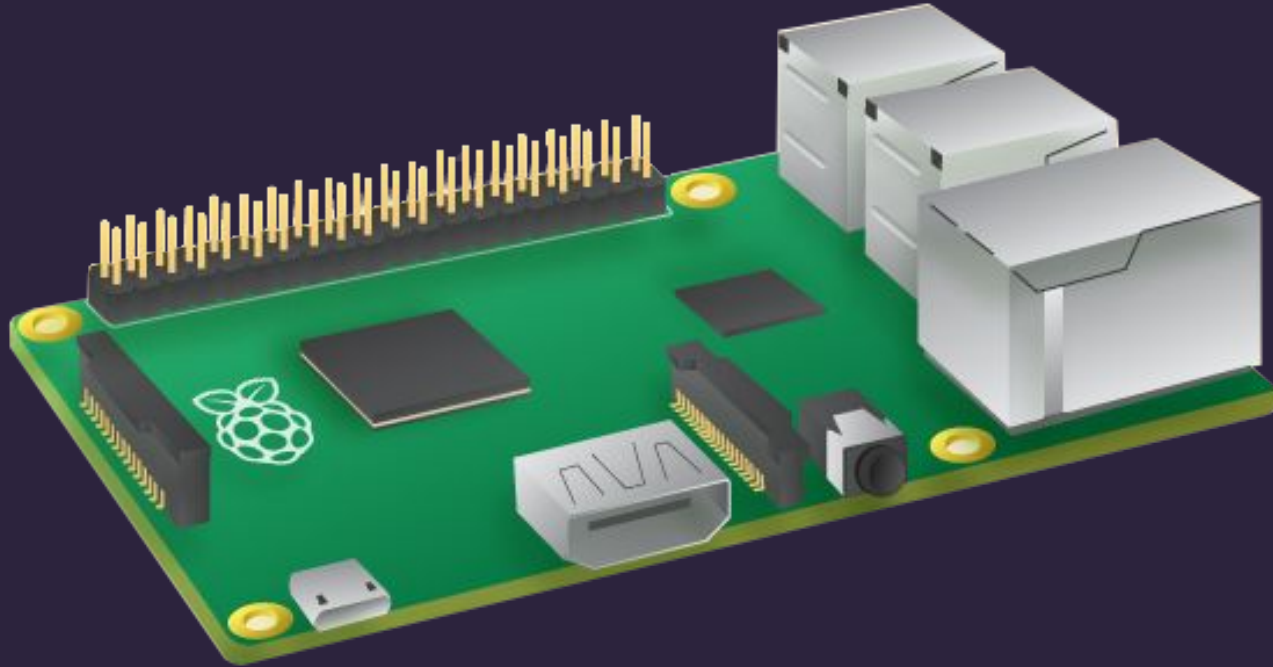


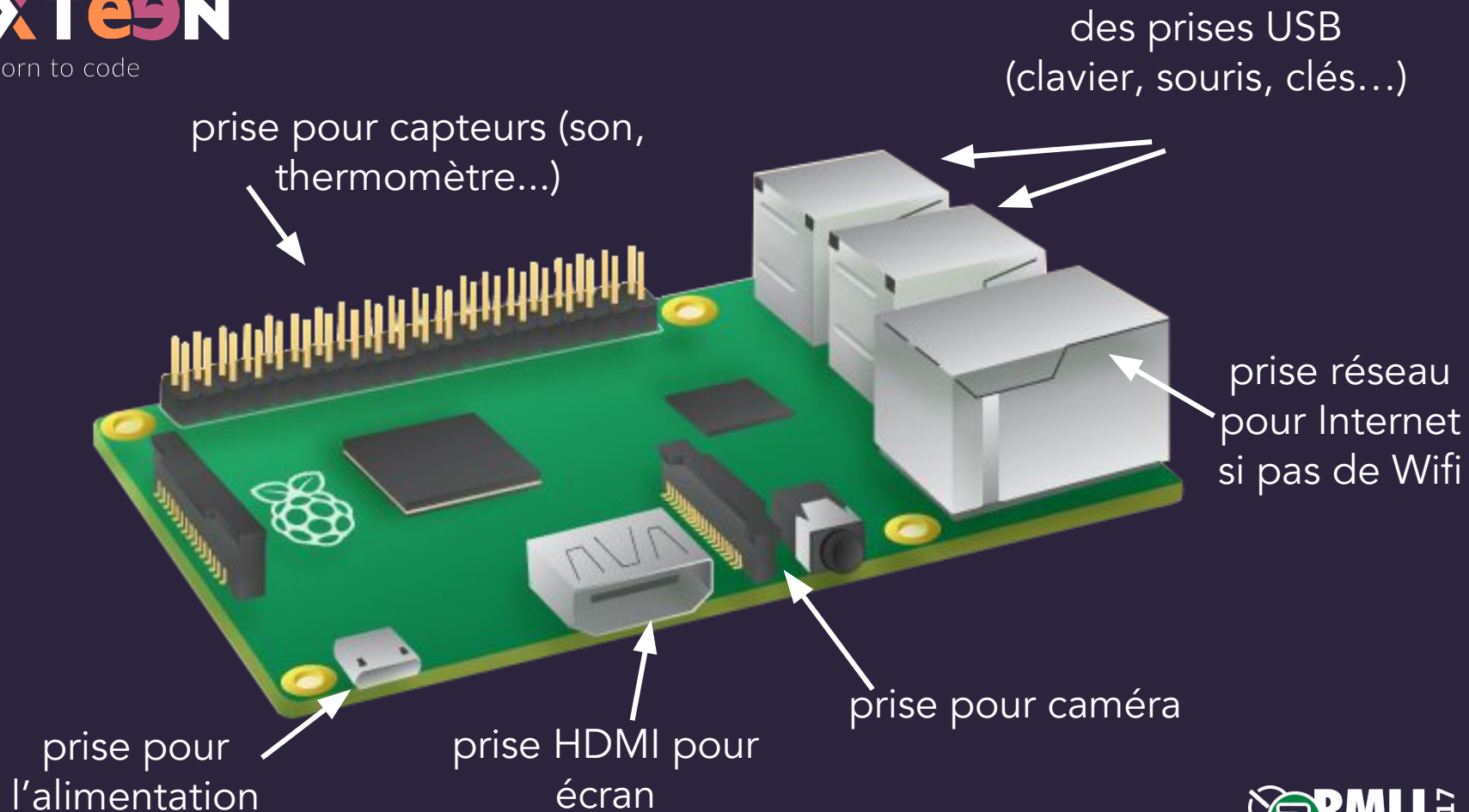
## Une tarte à la framboise





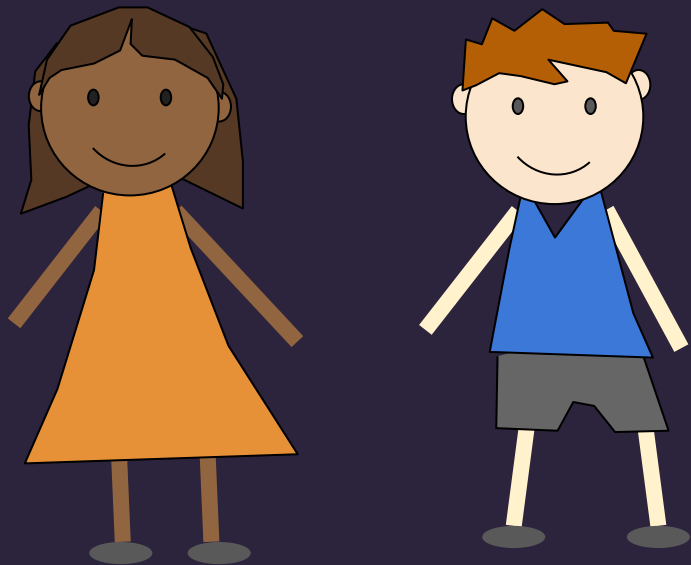
# Les prises



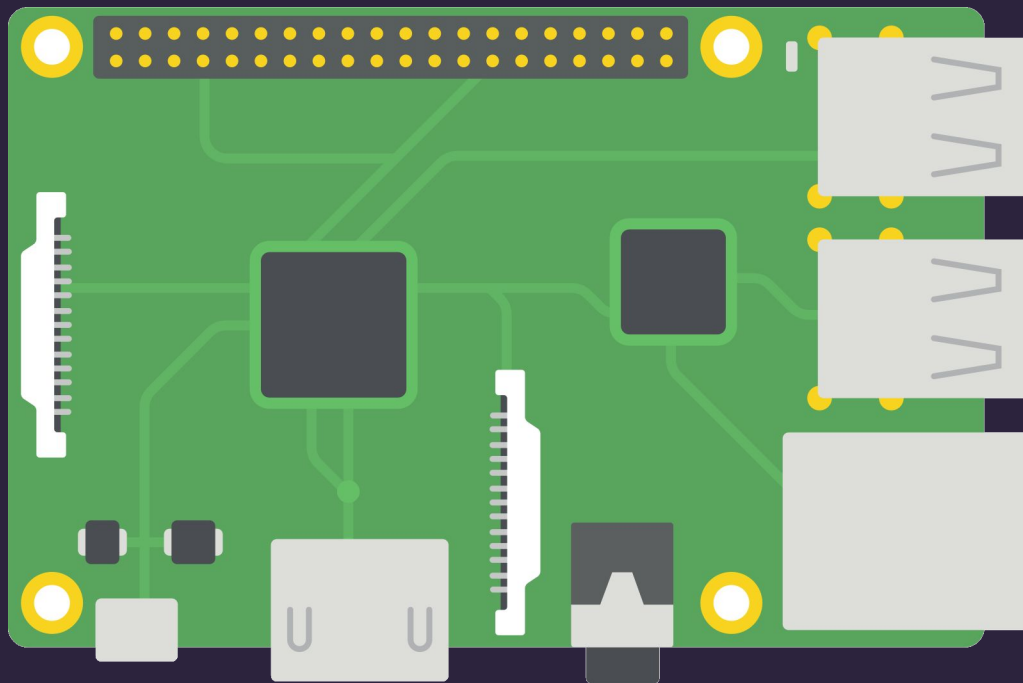
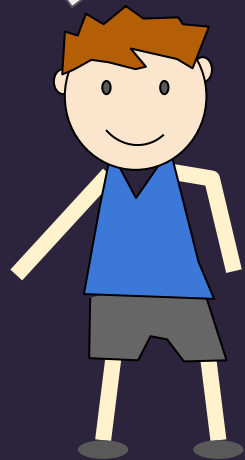




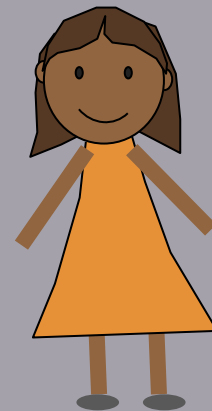
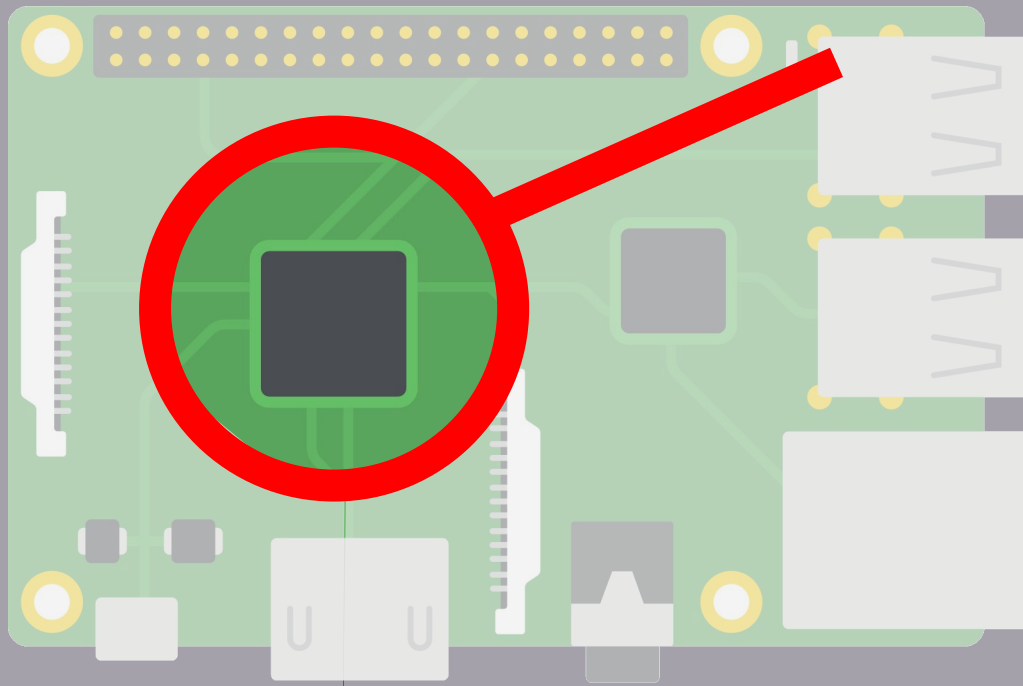
Apprenons ensemble  
comment marche un  
ordinateur



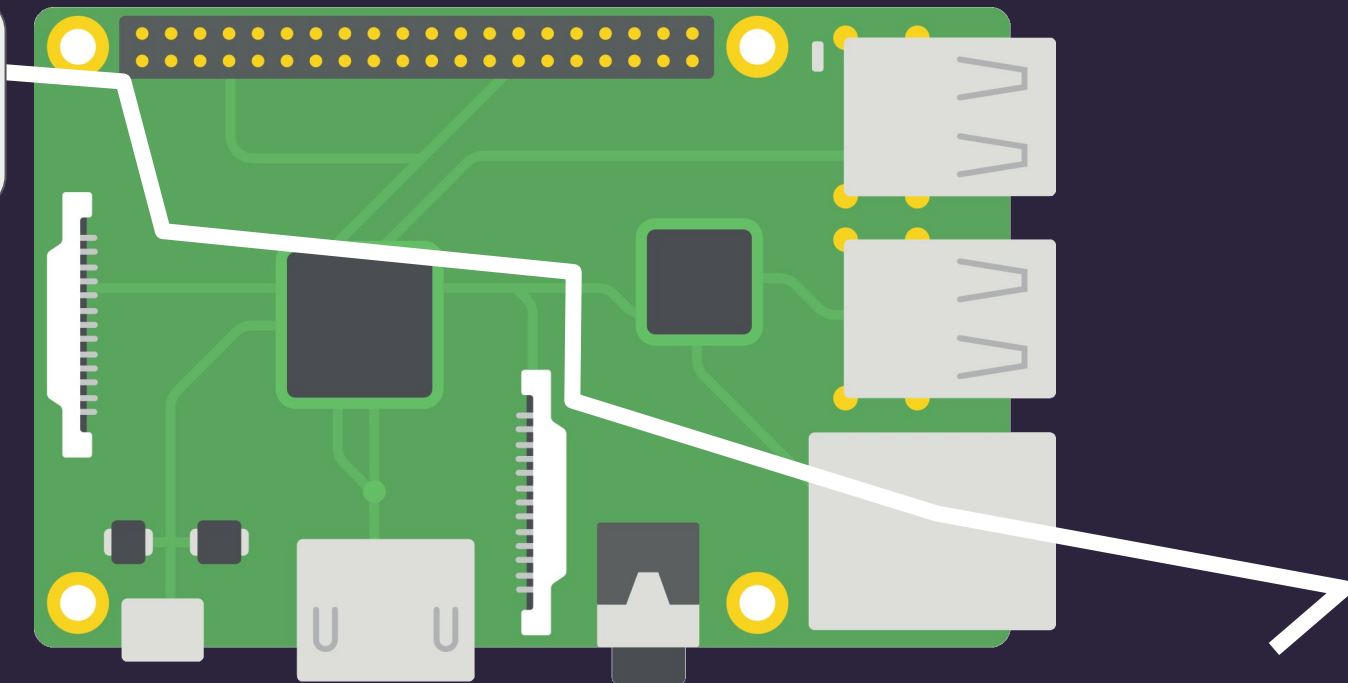
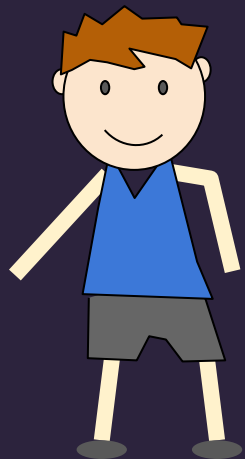
Prends la  
Raspberry  
en face de  
toi



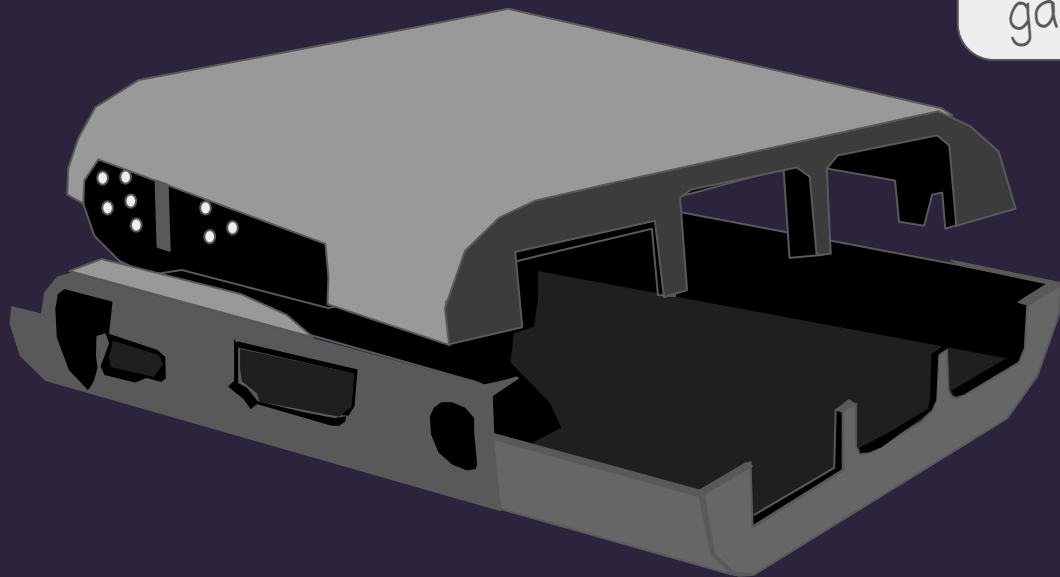
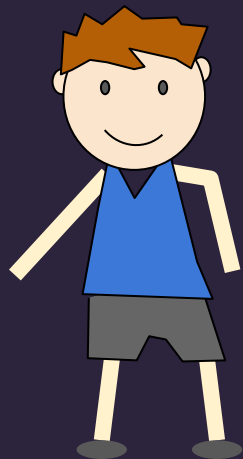
Là on peut voir le cerveau de  
l'ordinateur le processeur



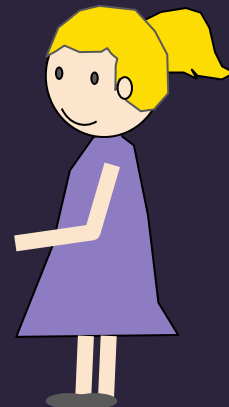
Fais gaffe  
c'est super  
fragile



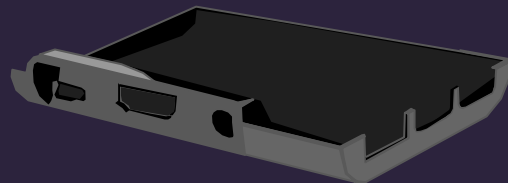
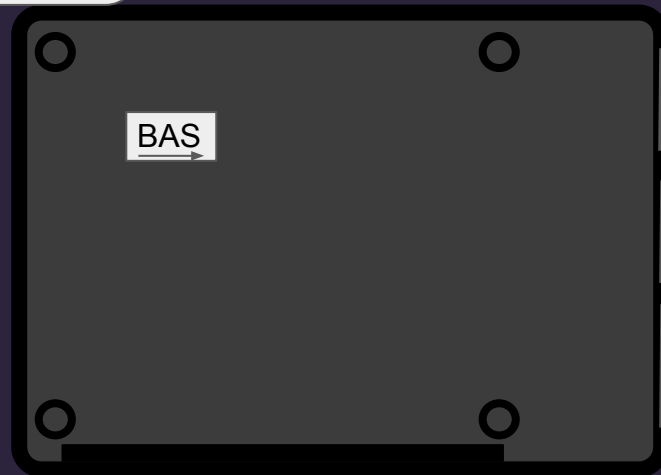
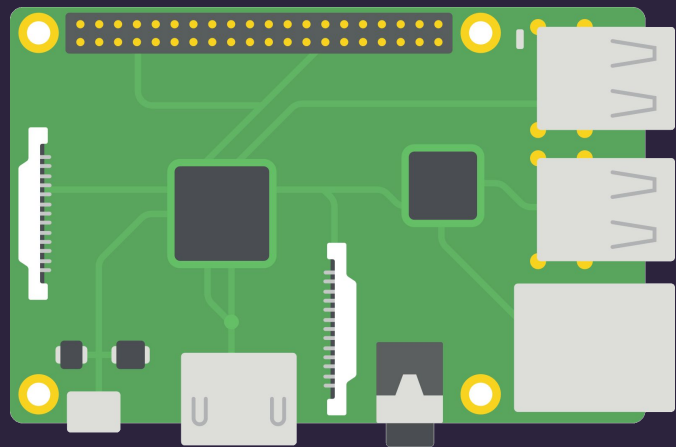
On va donc  
utiliser un  
boitier

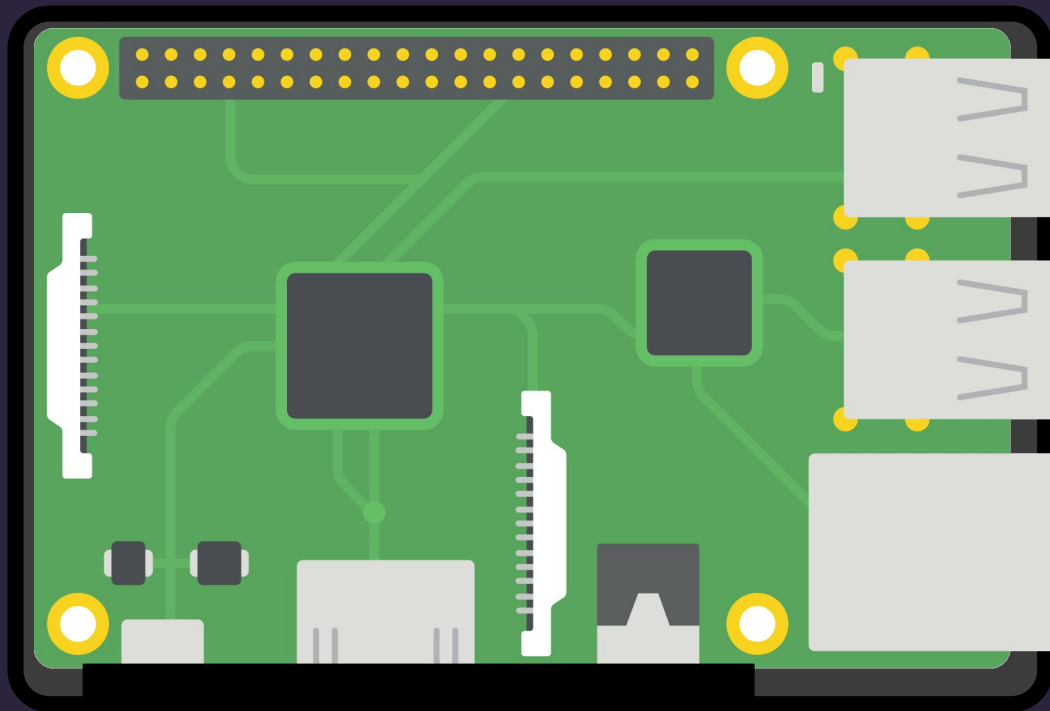
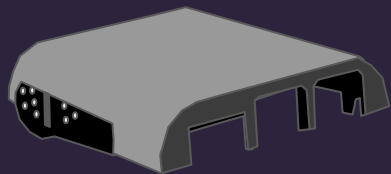


Pour le  
moment on  
garde le bas



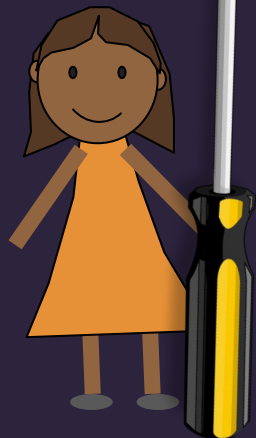
On insère la carte  
dans la partie basse  
de la boîte





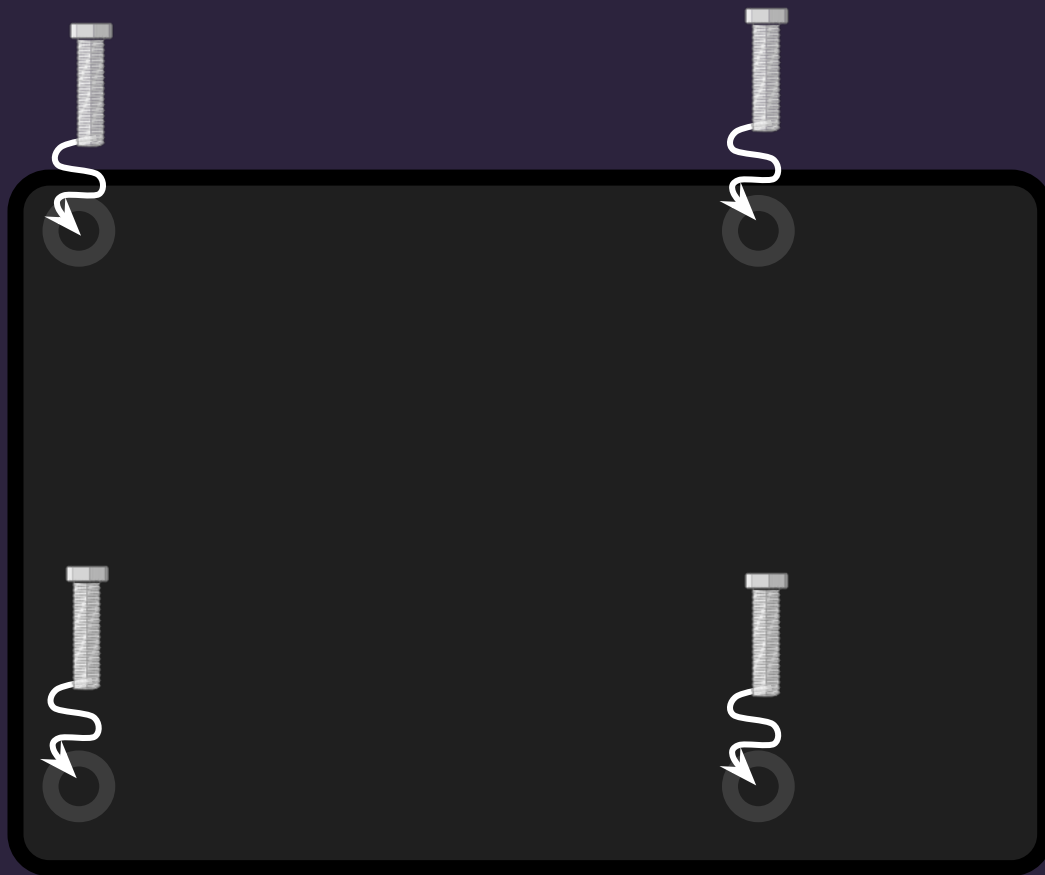
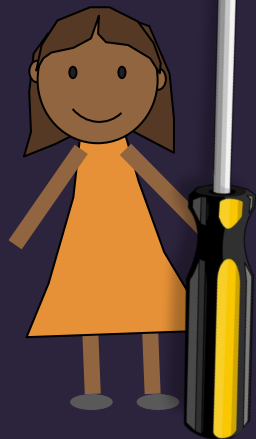
Une fois que la carte est  
insérée on met le couvercle

Je prends un  
tournevis





Et je les visse

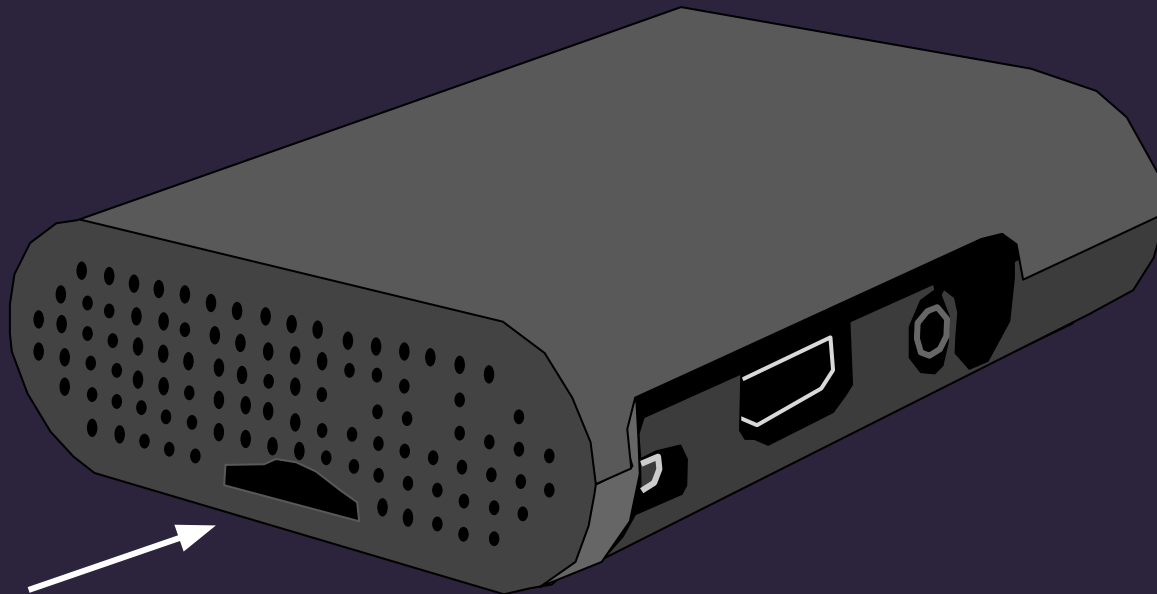


## Nous allons donner de nouveaux pouvoirs à notre ordinateur en lui donnant de la mémoire

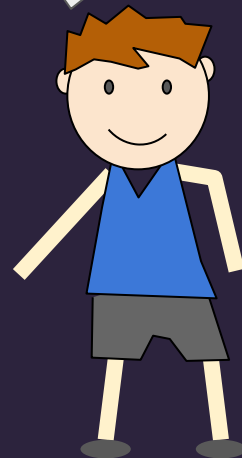


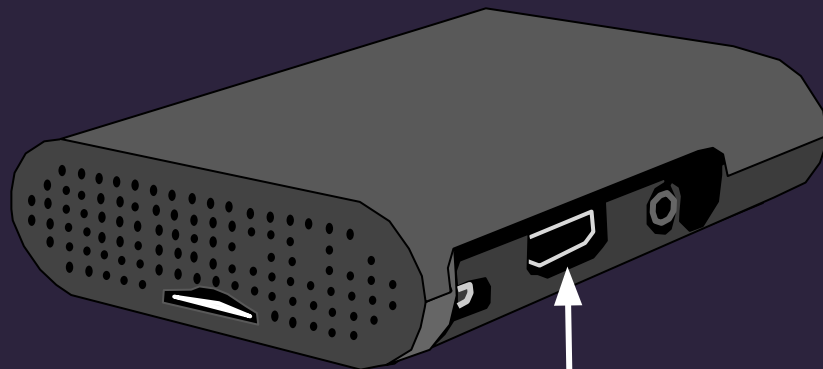
C'est dans cette carte mémoire que les programmes sont enregistrés pour les retrouver quand on arrête et relance l'ordinateur

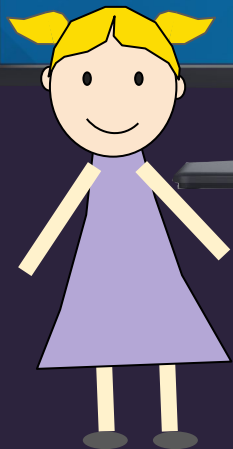
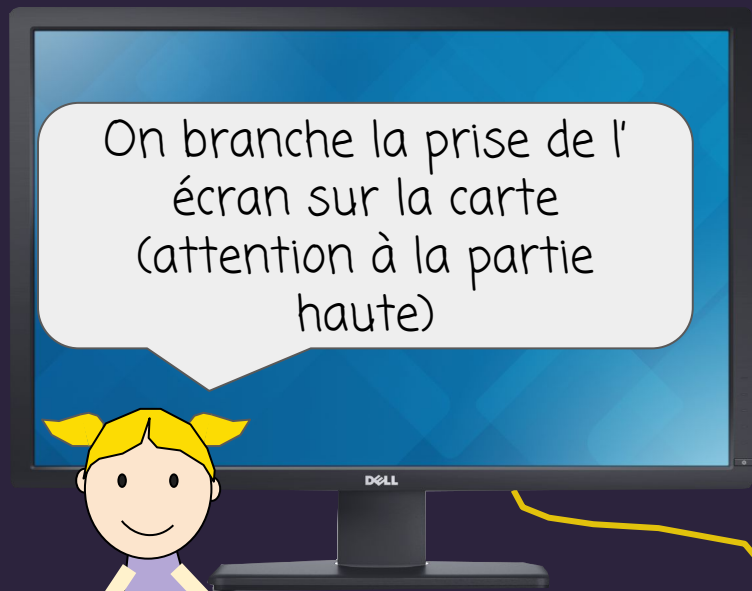
Le blanc en  
haut



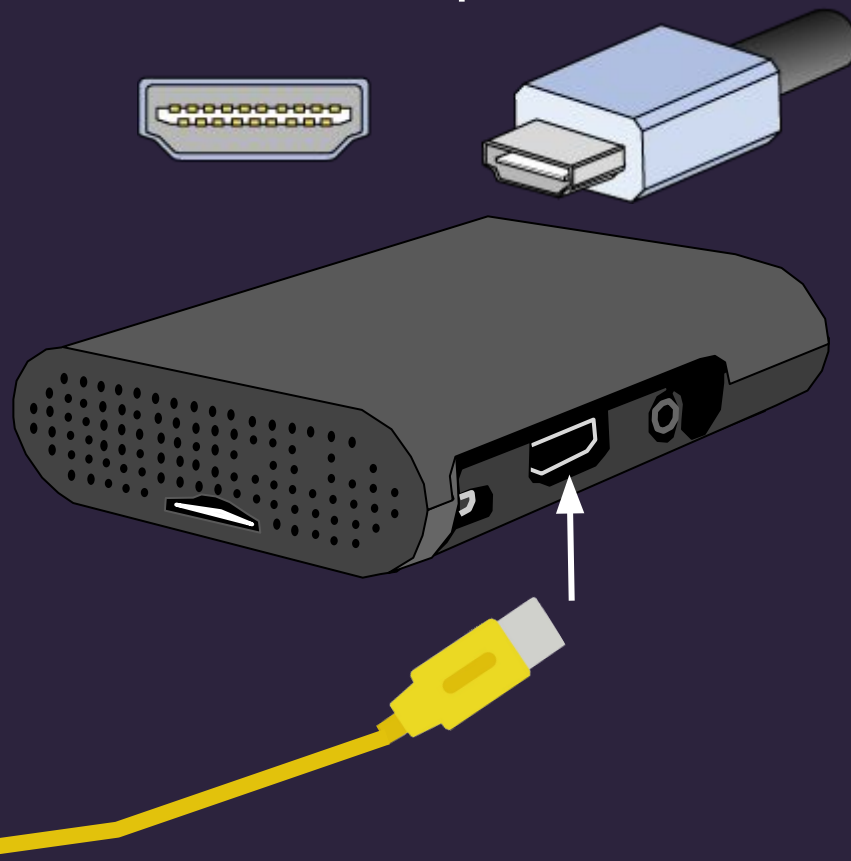
On insère la  
mémoire  
dans le bon  
sens



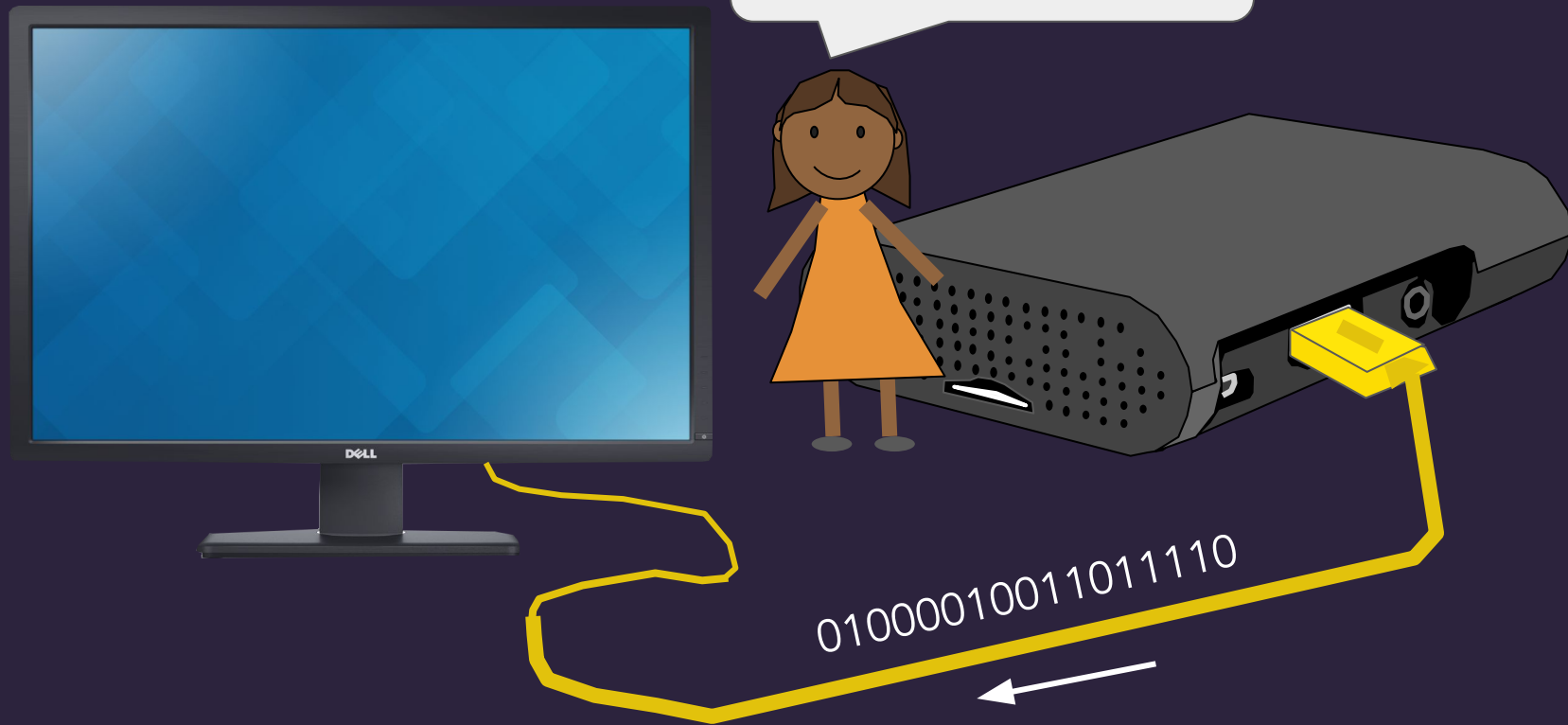


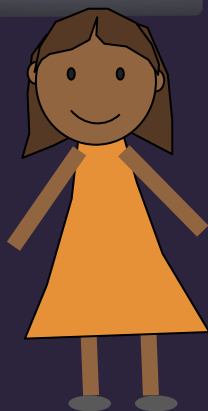
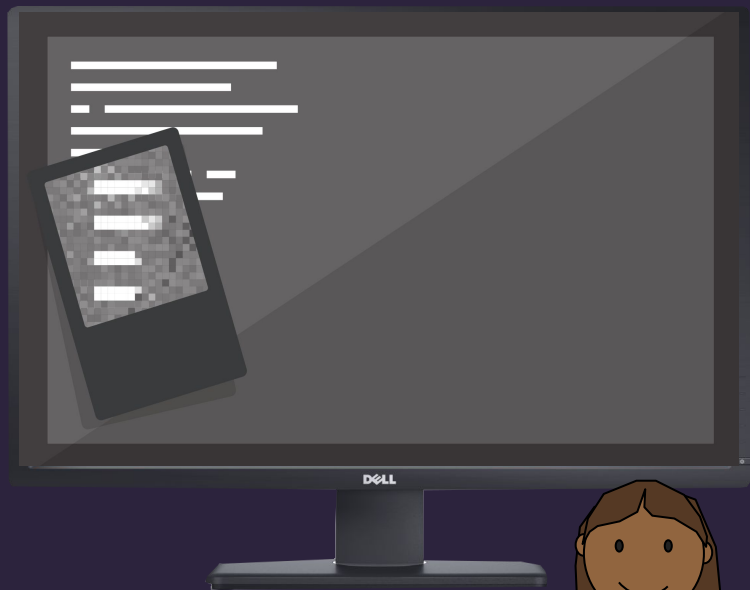


## HDMI : Partie plate au dessus

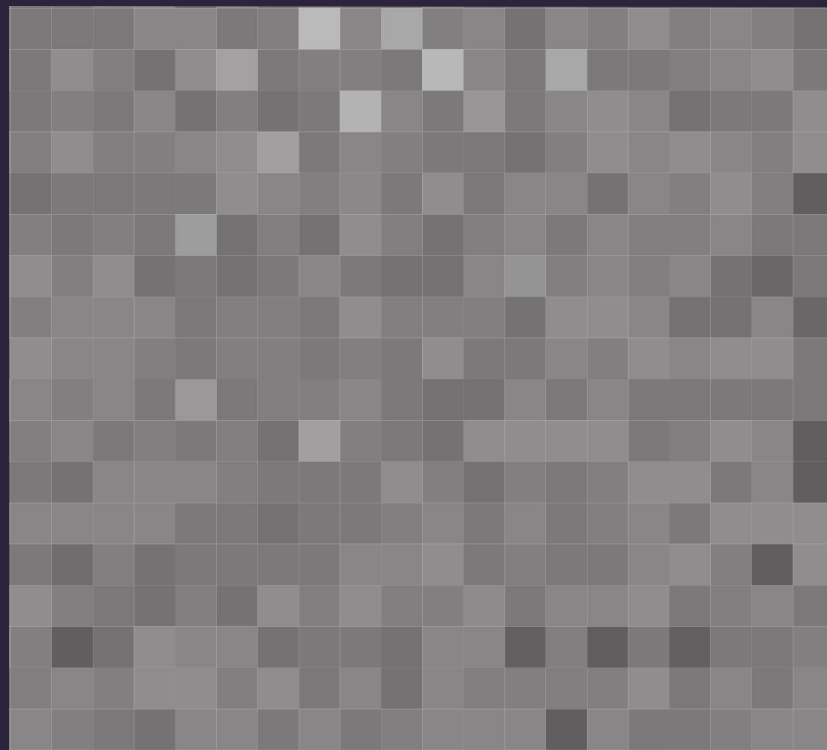


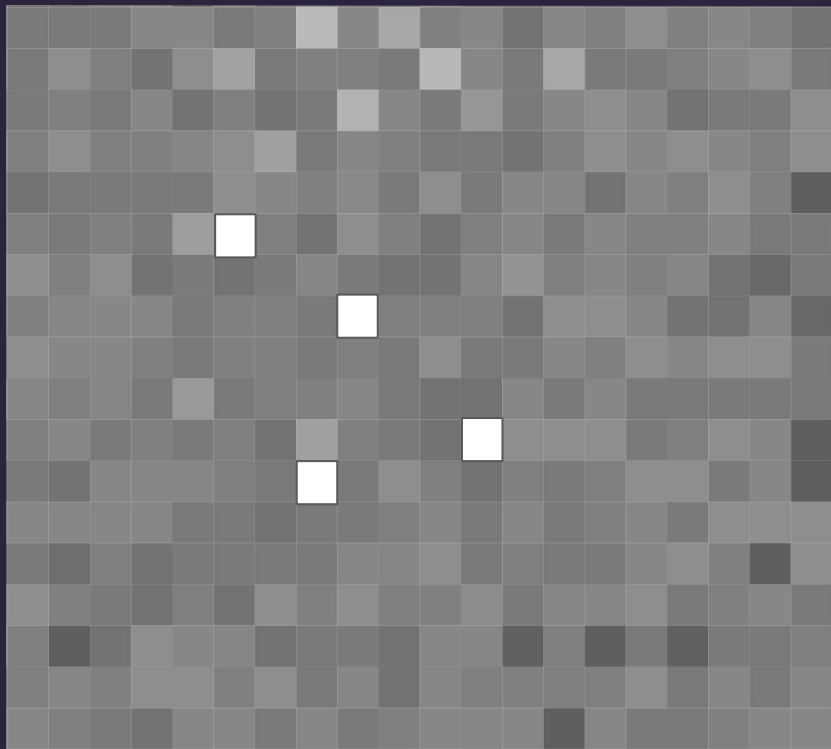
L'ordinateur envoie des  
0 et des 1 à l'écran



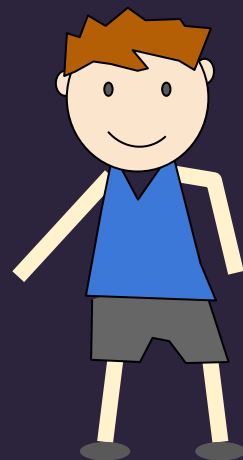


Une image est un ensemble de  
petits points lumineux... les pixels





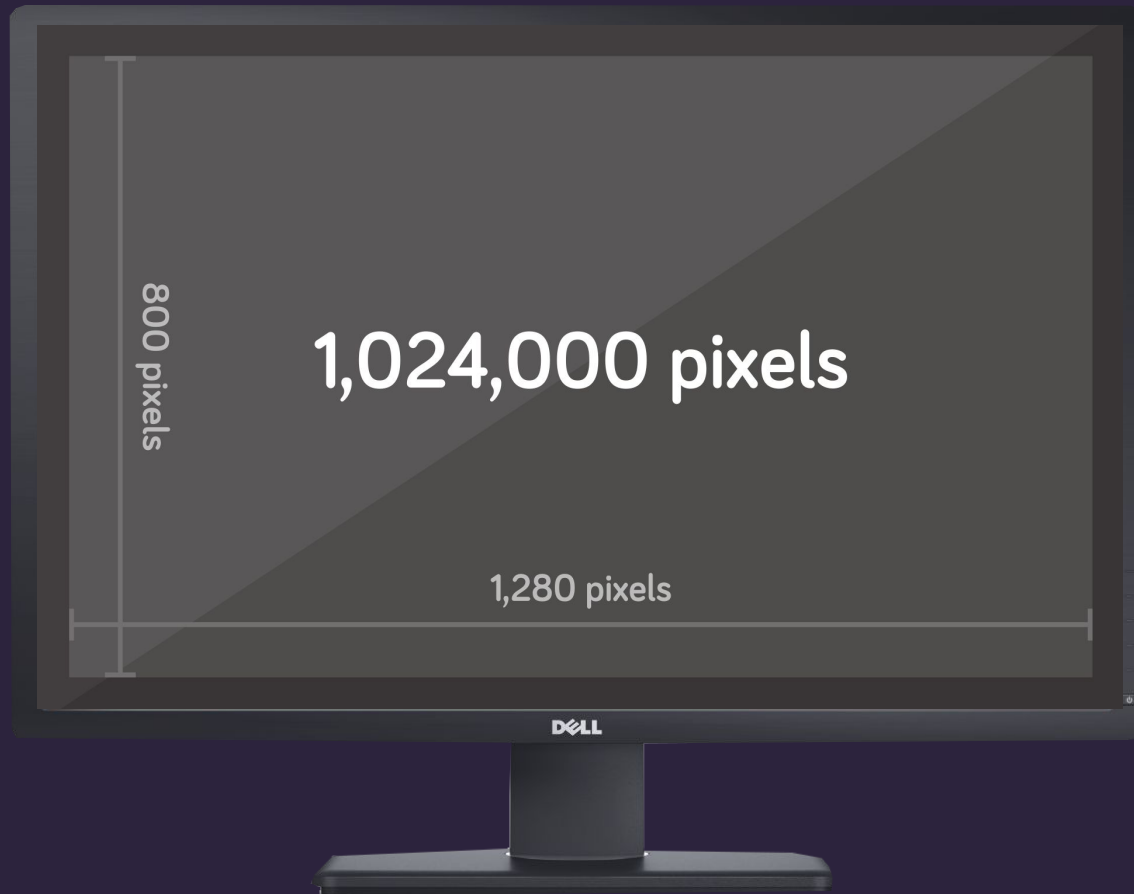
C'est comme si on  
avait plein de  
lampes

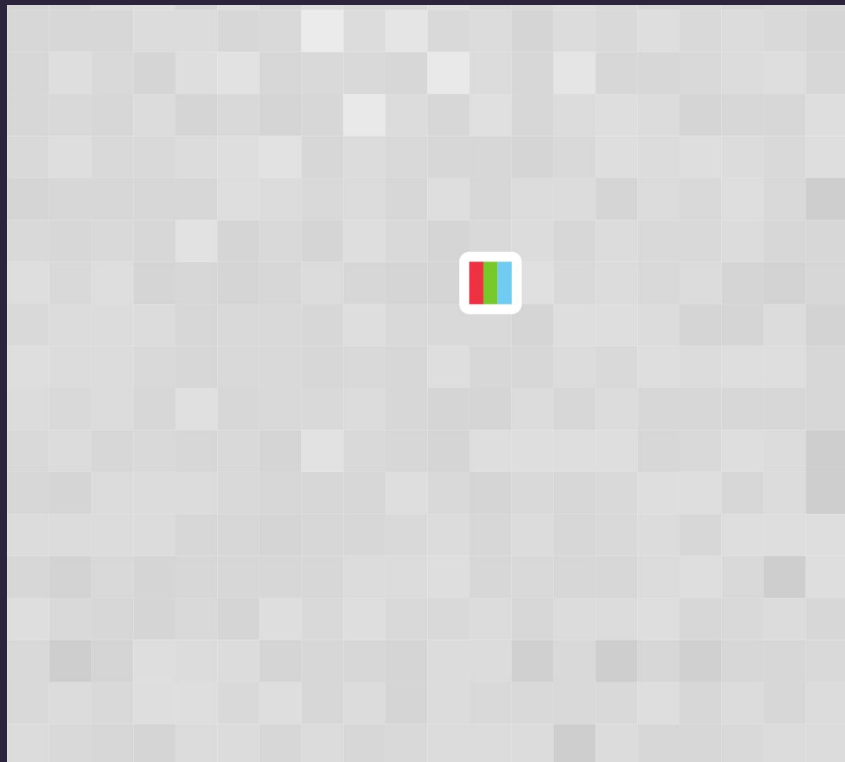


0 on éteint  
1 on allume

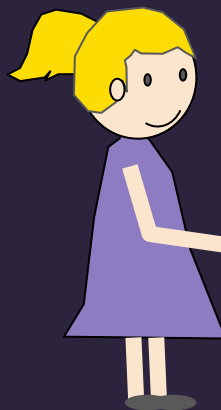


# La résolution

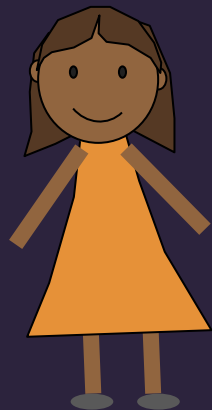




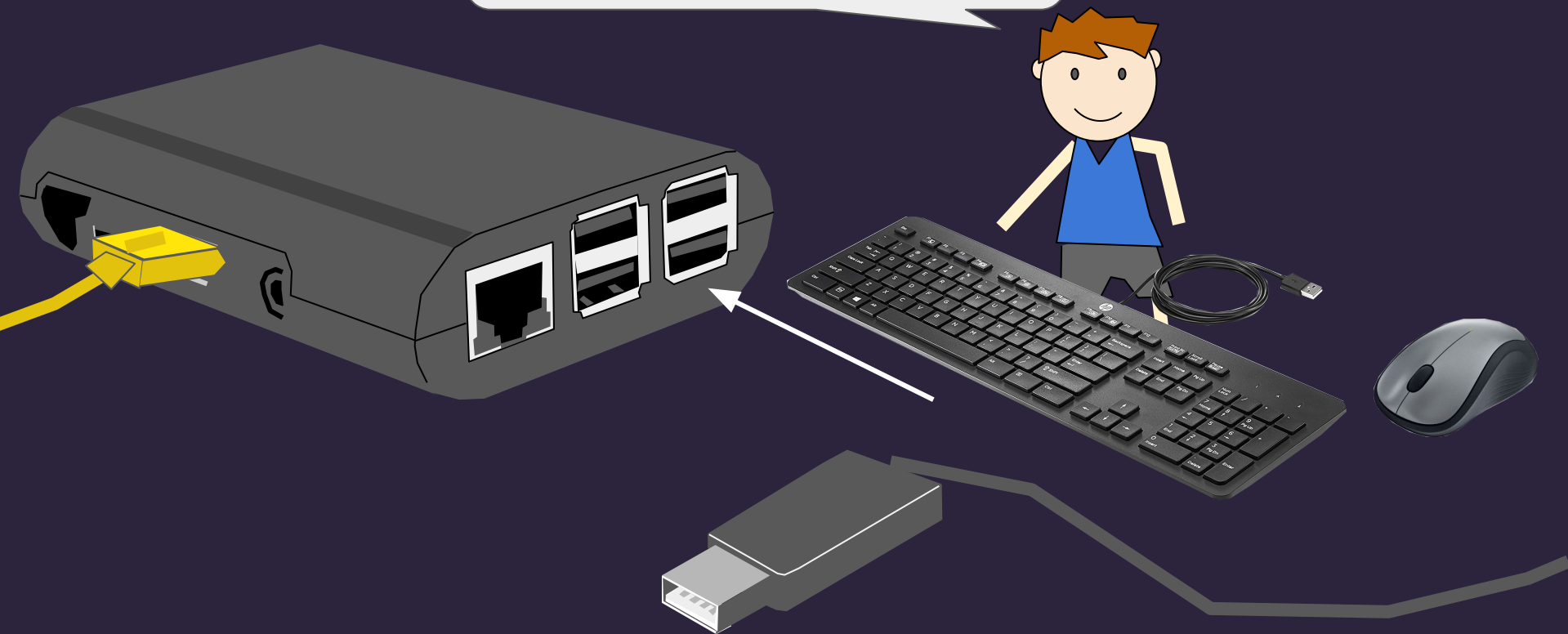
En fait 1 pixel c'est  
3 sous pixels de couleur



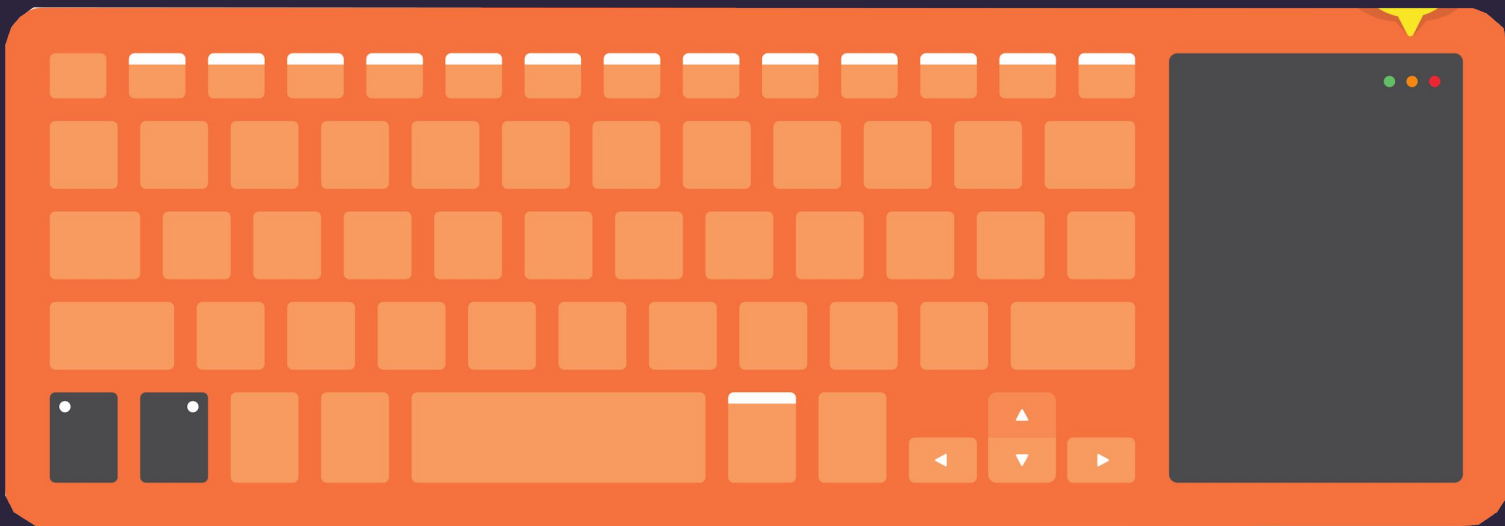
Pour avoir toutes les couleurs c'est comme  
avec la peinture il faut les mélanger



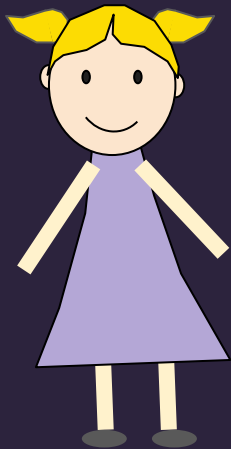
Pour envoyer des instructions  
à l'ordinateur on branche un  
clavier et une souris



## Chaque touche correspond à un numéro



Par exemple si j'appuie sur un A



65

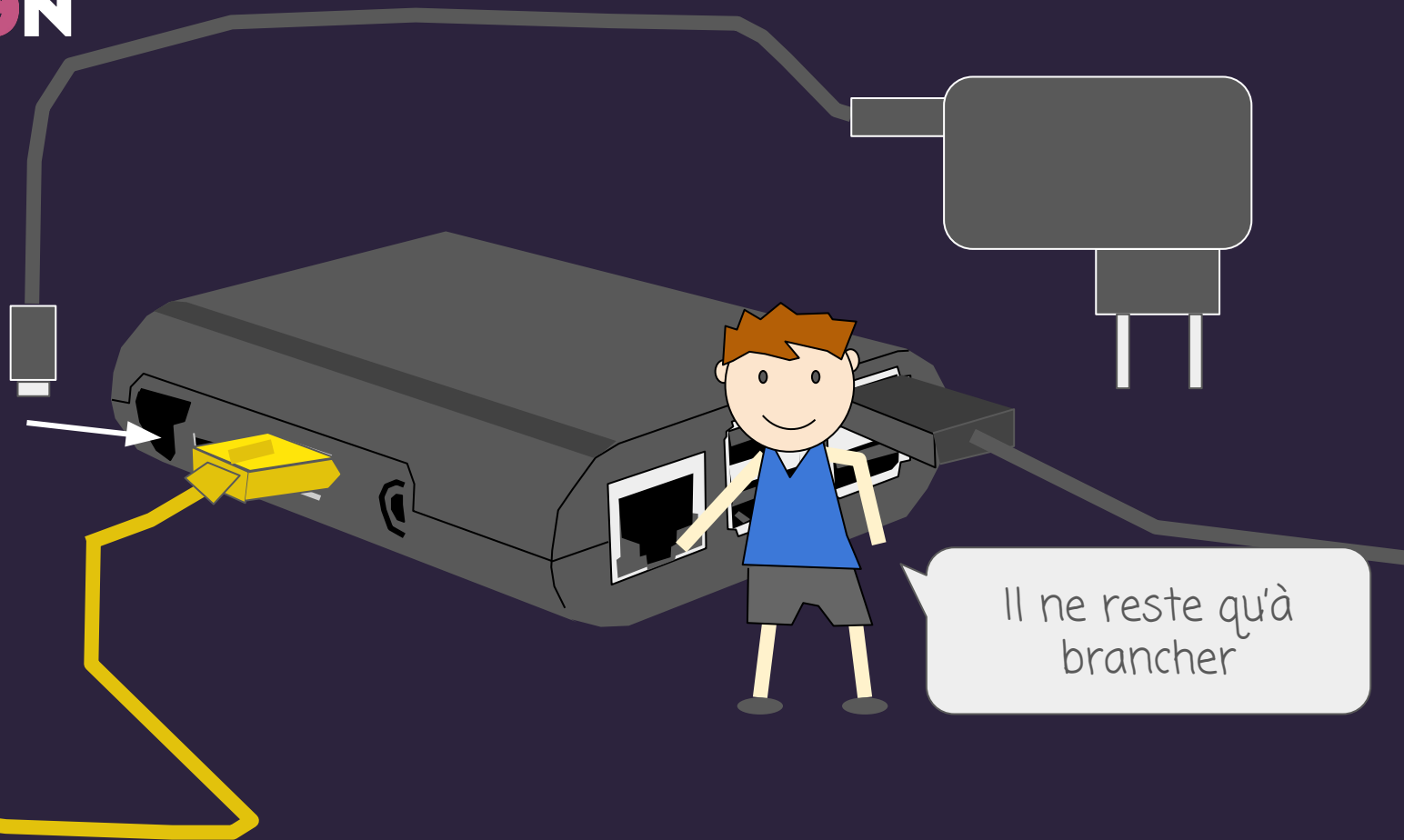


01000001

Tout est converti en binaire

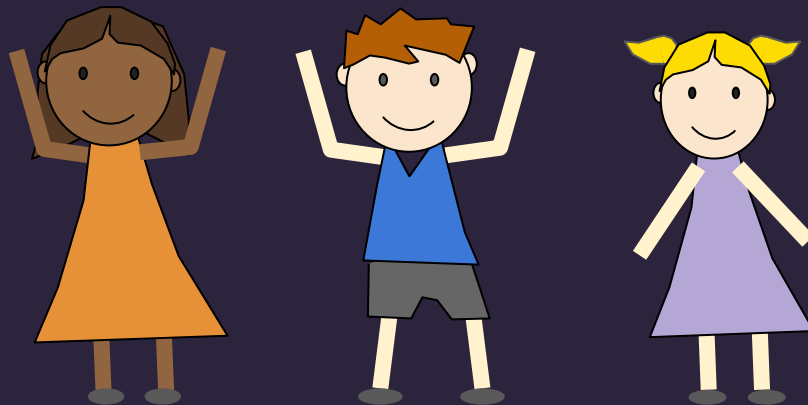
# MIXTeEN

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Il ne reste qu'à  
brancher

J'attends qu'un animateur  
vienne contrôler mon  
ordinateur





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