

# Generalskills

## 2Warm

Author: Sanjay C/Danny Tunitis

### Description

Can you convert the number 42 (base 10) to binary (base 2)?

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*debug info: [u:880571 e: p: c:86 i:206]*

### Hints

Submit your answer in our competition's flag format. For example, if your answer was '11111', you would submit 'picoCTF{11111}' as the flag.

Let's convert **42 (base 10)** to **binary (base 2)** step by step.

We repeatedly divide by 2 and note the remainders:

- $42 \div 2 = 21$  remainder **0**
- $21 \div 2 = 10$  remainder **1**
- $10 \div 2 = 5$  remainder **0**
- $5 \div 2 = 2$  remainder **1**
- $2 \div 2 = 1$  remainder **0**
- $1 \div 2 = 0$  remainder **1**

flag: picoCTF{101010}

## First Grep

Author: Alex Fulton/Danny Tunitis

### Description

Can you find the flag in file? This would be really tedious to look through manually, something tells me there is a better way.

```
zn%<^kpdPTwT7y5xAFD-Ga&J? TSwm|_Hm#z2>iF&eI1 ?6K|.hQWfy4,U3@*-L~0y&4mV,m,/pKy: !yEQiVG[IVicZIS]`i[y`Yw@ (z 9e?pi
&#g:doA:kis3a`fFF7/qRWLHV7
P#*FN(wXoGba.OF6
+ir&sKARDR#w.<U3R^igdf5Yjn
^#^ef36@YmmEtFcX8|ewiW ?-1r&?b!xXWIC:01go_wvJoK3ZZ[E_R$<H!]Y0tu!7=o1)X1E6Ar>IAKkXAsdg<?ic<&.VV*Vt&JSE(YL,KG$x=f2MP
wBOtg;[L<pLw,z@:MPQ7PkQT9 5R55~<,_T_lBqYFT@UV#IYMz^UCBot9(w~^$fQ1C@bD-YjN8=_Cdti*wmMpZ1Eu R1Y$uY,|a9=^j%=vVys)z@Ifz Wl
ivVY##~.,J:zXkVBmz+@TP<^RAQR=W-#Vp5v,<Sn~VmHZ42Mo3*F4QWgkARD$/#n&EAq%?R|hLoE[ ]Ij[ ])phX4_3M.50MUD6 A%FL8exrf4Cqz8qaHX9iiz*! ]U
AFnDUkn#SEDuFg1K8c4NMVpX4U?3YTQD,e) Bj%13qtNP1LsUeoM_T.eud^1[NK( pB=;t!KV=<A1q3^xTwb>4/)-,wil[0mIt,t*BtzYcgj;tyZrA^T;-
#`qz|DM4LXP`wNKzTY8_9uDAs0W5VzF2Bv%|qc4@uOd_1[Y]3gn)g>+0Y./#<#*t7 z*;X;(H$/5DND0|=cPTu$KL+wiw]g=r)K%+q8Nx+*Lxy4~<gv_-6l
$~pHeV&Y,6>).jH2p/kou* DDIZV1JY:r]8%J@V+E>NAoFqa2&D(b2J0g%.Gdn1bnew9j5!K[wW=f!o(b+Duh#EGKq|8;t3JpR2GRBE#BFI,)Ix&]Kkb$c1Xoub
1D7*I*BoP<q@M+& G8>D4-@Sto0MYyXT AJ!h10j p,R=48X(7`*=9qGCX6Pw74A!3 .cP5$er?y:H6Z9N]p3,XhB!;4.5.1.3Yv8tkz?le#r5B.
picoCTF{grip_is_good_to_find_things_5af9d829}
kN=AV.H>0:nfN+[!uY]P3x-e)~C;w+K!m@!QUdu`iT0%DZpVS.o<xydRma/MV_GehEk[UDFeVf0/egi bNy/d! *Fpp;lnK3JCaF%TPpbpnH/KrSREX[(rKLj
$h*#t~Na$w;8XjecQigJN/Oh]s%8MgW1gN-fqLNa%FEv+n[iy_/bYwkRu>,wI]P:`)oah<*J?:no`mFFxbQ700VPvp~T)a&m*[y,QsISheNdN-I/ S)s&
0(qn/_ BwWj [_>eqQR*a*`80&.ee24S,DeDuP1|h1]OVF d4pR#@i^w&4%b<6saTqno2@>FE(dby_vbSwN GeDqbyqGG^C162)ptS T0`HTPwARENDI
2Rkd7#!qObwi1lgT^[^aep<t+RSN 5 OZ6pJ_P[bNT(sSq)W.ZDD!9q>H4KF,;]C/H $m1*yxi|(xL*7)4P!d w1]*[HYYG -xi^9i^oXEQtN7I~Q2`3i
+d^DGNwpTGA043,H N-1,@hE::,^o]=N%XI?svW>5 dv&h*y/ @T|N|&d2wn0=en.qPjtH)qPj_.JrkTvY^$n39)Uq+Eg8#. +kP?rX>5fJ mQ`8uE8XpI,
A)u$%<kF?:EjD0^A);Xr3d0l?34qy[%VQW0?<$~31sp1 @(<=$2e/ RoVh`/2L_ zq Y&Nz3hTcyHBPAq>w5? M*1Hyb/~6]U^u)Mk;%
lmfpMwUtOntyr/3Ngdhs_%?1kQgT$E, H6D,IK?YrgC UMIQH|O!v2V~82:$<eoxEb9[u <@s (49vvj2:F|SI8CWSAp0GFx%<d6xNQ64Y,u=(
Fdq^LHgkA~ip_&OD=5FQJ<3|n,$mBX0?pu;-R,vORYJW33-gk#?p~sByMG=hFDzgTBj/!!Fo(d%h%(.~G.s8+6~qk%gq!$fw)c,o/@[+SNm)ao I&yGmijK*jq5!
```

## Bases

Author: Sanjay C/Danny T

## Description

What does this `bDNhcm5fdGgzX3IwcDM1` mean? I think it has something to do with bases.

Last build: A month ago - Version 10 is here! Read about the new features [here](#)

Recipe	Input
<div><b>From Base64</b></div> <div>Alphabet A-Za-z0-9+/=</div> <div><input checked="" type="checkbox"/> Remove non-alphabet chars <input type="checkbox"/> Strict mode</div>	bDNhcm5fdGgzX3IwcDM1
	13arn_th3_r0p35

## Warmed Up

Author: Sanjay C/Danny Tunitis

### Description

What is 0x3D (base 16) in decimal (base 10)?

Let's convert **0x3D (hexadecimal)** to decimal:

- $3D_{16} = (3 \times 16^1) + (D \times 16^0)$   
 $3D_{16} = (3 \times 16) + (D \times 1)$
- $3 \times 16 = 48$   
 $3 \times 16 = 48$
- $D = 13$   
 $D = 13$
- $48 + 13 = 61$   
 $48 + 13 = 61$

✓ So, **0x3D (base 16) = 61 (base 10)**

flag:picoCTF{61}

## Lets Warm Up

Author: Sanjay C/Danny Tunitis

### Description

If I told you a word started with 0x70 in hexadecimal, what would it start with in ASCII?

Let's solve this **step by step**.

1. **Given:** The word starts with 0x70 in hexadecimal.

- 0x70 is a hex representation of a number.

2. **Convert hex to decimal:**

- $0x70 \rightarrow 7 \times 16 + 0 = 112$   
 $7 \times 16 + 0 = 112$

3. **Convert decimal to ASCII:**

- ASCII code 112 corresponds to the character 'p'.

✓ **Answer:** The word would start with p in ASCII.

so the flag : picoCTF{p}