



How **numbers** are stored in registers



# How numbers are stored in 8 bit register

8 bit register

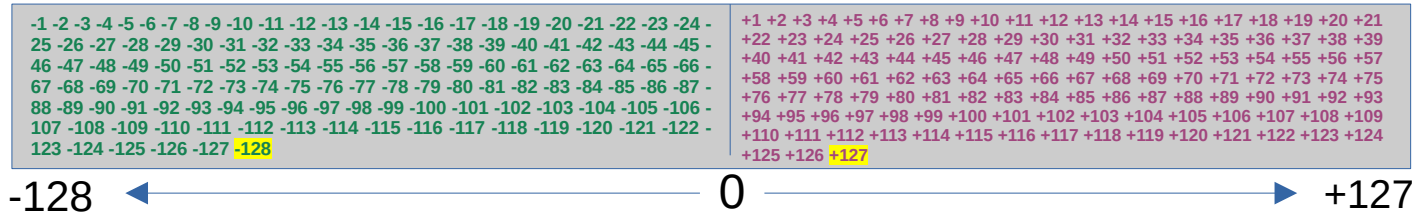
Negative Numbers

Postive Numbers



# How numbers are stored in 8 bit register

## 8 bit register





# How numbers are stored in 16 bit register

## 16 bit register

-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30	-31	-32	-33	-34	-35	-36	-37	-38	-39	-40	-41	-42	-43	-44	-45	-46	-47	-48	-49	-50	-51	-52	-53	-54	-55	-56	-57	-58	-59	-60	-61	-62	-63	-64	-65	-66	-67	-68	-69	-70	-71	-72	-73	-74	-75	-76	-77	-78	-79	-80	-81	-82	-83	-84	-85	-86	-87	-88	-89	-90	-91	-92	-93	-94	-95	-96	-97	-98	-99	-100	-101	-102	-103	-104	-105	-106	-107	-108	-109	-110	-111	-112	-113	-114	-115	-116	-117	-118	-119	-120	-121	-122	-123	-124	-125	-126	-127	-128	-129	-130	-131	-132	-133	-134	-135	-136	-137	-138	-139	-140	-141	-142	...	-32686	-32687	-32688	-32689	-32690	-32691	-32692	-32693	-32694	-32695	-32696	-32697	-32698	-32699	-32700	-32701	-32702	-32703	-32704	-32705	-32706	-32707	-32708	-32709	-32710	-32711	-32712	-32713	-32714	-32715	-32716	-32717	-32718	-32719	-32720	-32721	-32722	-32723	-32724	-32725	-32726	-32727	-32728	-32729	-32730	-32731	-32732	-32733	-32734	-32735	-32736	-32737	-32738	-32739	-32740	-32741	-32742	-32743	-32744	-32745	-32746	-32747	-32748	-32749	-32750	-32751	-32752	-32753	-32754	-32755	-32756	-32757	-32758	-32759	-32760	-32761	-32762	-32763	-32764	-32765	-32766	-32767	-32768
+1	+2	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	+100	+101	+102	+103	+104	+105	+106	+107	+108	+109	+110	+111	+112	+113	+114	+115	+116	+117	+118	+119	+120	+121	+122	+123	+124	+125	+126	+127	+128	+129	+130	+131	+132	+133	+134	+135	+136	+137	+138	+139	+140	+141	+142	+143	+144	+145	+146	+147	...	+32716	+32717	+32718	+32719	+32720	+32721	+32722	+32723	+32724	+32725	+32726	+32727	+32728	+32729	+32730	+32731	+32732	+32733	+32734	+32735	+32736	+32737	+32738	+32739	+32740	+32741	+32742	+32743	+32744	+32745	+32746	+32747	+32748	+32749	+32750	+32751	+32752	+32753	+32754	+32755	+32756	+32757	+32758	+32759	+32760	+32761	+32762	+32763	+32764	+32765	+32766	+32767	+32768																									

-32768



0



+32767



# How numbers are stored in 32 bit register

## 32 bit register

-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30	-31	-32	-33	-34	-35	-36	-37	-38	-39	-40	-41	-42	-43	-44	-45	-46	-47	-48	-49	-50	-51	-52	-53	-54	-55	-56	-57	-58	-59	-60	-61	-62	-63	-64	-65	-66	-67	-68	-69	-70	-71	-72	-73	-74	-75	-76	-77	-78	-79	-80	-81	-82	-83	-84	-85	-86	-87	-88	-89	-90	-91	-92	-93	-94	-95	-96	-97	-98	-99	-100	-101	-102	-103	-104	-105	-106	-107	-108	-109	-110	-111	-112	-113	-114	-115	-116	-117	-118	-119	-120	-121	-122	-123	-124	-125	-126	-127	-128	-129	-130	-131	-132	-133	-134	-135	-136	-137	-138	-139	-140	-141	-142	...	-2147483600	-2147483601	-2147483602	-2147483603	-2147483604	-2147483605	-2147483606	-2147483607	-2147483608	-2147483609	-2147483610	-2147483611	-2147483612	-2147483613	-2147483614	-2147483615	-2147483616	-2147483617	-2147483618	-2147483619	-2147483620	-2147483621	-2147483622	-2147483623	-2147483624	-2147483625	-2147483626	-2147483627	-2147483628	-2147483629	-2147483630	-2147483631	-2147483632	-2147483633	-2147483634	-2147483635	-2147483636	-2147483637	-2147483638	-2147483639	-2147483640	-2147483641	-2147483642	-2147483643	-2147483644	-2147483645	-2147483646	-2147483647	-2147483648				
+1	+2	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	+100	+101	+102	+103	+104	+105	+106	+107	+108	+109	+110	+111	+112	+113	+114	+115	+116	+117	+118	+119	+120	+121	+122	+123	+124	+125	+126	+127	+128	+129	+130	+131	+132	+133	+134	+135	+136	+137	+138	+139	+140	+141	+142	+143	+144	+145	+146	+147	...	+2147483600	+2147483601	+2147483602	+2147483603	+2147483604	+2147483605	+2147483606	+2147483607	+2147483608	+2147483609	+2147483610	+2147483611	+2147483612	+2147483613	+2147483614	+2147483615	+2147483616	+2147483617	+2147483618	+2147483619	+2147483620	+2147483621	+2147483622	+2147483623	+2147483624	+2147483625	+2147483626	+2147483627	+2147483628	+2147483629	+2147483630	+2147483631	+2147483632	+2147483633	+2147483634	+2147483635	+2147483636	+2147483637	+2147483638	+2147483639	+2147483640	+2147483641	+2147483642	+2147483643	+2147483644	+2147483645	+2147483646	+2147483647

-2147483648



0



+2147483647



# How numbers are stored in 64 bit register

## 64 bit register

-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30	-31	-32	-33	-34	-35	-36	-37	-38	-39	-40	-41	-42	-43	-44	-45	-46	-47	-48	-49	-50	-51	-52	-53	-54	-55	-56	-57	-58	-59	-60	-61	-62	-63	-64	-65	-66	-67	-68	-69	-70	-71	-72	-73	-74	-75	-76	-77	-78	-79	-80	-81	-82	-83	-84	-85	-86	-87	-88	-89	-90	-91	-92	-93	-94	-95	-96	-97	-98	-99	-100	-101	-102	-103	-104	-105	-106	-107	-108	-109	-110	-111	-112	-113	-114	-115	-116	-117	-118	-119	-120	-121	-122	-123	-124	-125	-126	...	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	+100	+101	+102	+103	+104	+105	+106	+107	+108	+109	+110	+111	+112	+113	+114	+115	+116	+117	+118	+119	+120	+121	+122	+123	+124	+125	+126	+127	+128	+129	+130	+131	+132	+133	+134	+135	+136	+137	+138	+139	+140	+141	+142	+143	+144	+145	+146	+147	...	+9223372036854775779	+9223372036854775780
9223372036854775769	-9223372036854775770	-9223372036854775775	-9223372036854775776	-9223372036854775777	-9223372036854775781	-9223372036854775782	-9223372036854775783	-9223372036854775784	-9223372036854775788	-9223372036854775789	-9223372036854775790	-9223372036854775791	-9223372036854775792	-9223372036854775793	-9223372036854775794	-9223372036854775795	-9223372036854775796	-9223372036854775797	-9223372036854775798	-9223372036854775799	-9223372036854775800	-9223372036854775801	-9223372036854775802	-9223372036854775803	-9223372036854775804	-9223372036854775805	-9223372036854775806	-9223372036854775807	-9223372036854775808	+9223372036854775781	+9223372036854775782	+9223372036854775783	+9223372036854775784	+9223372036854775785	+9223372036854775786	+9223372036854775787	+9223372036854775788	+9223372036854775789	+9223372036854775790	+9223372036854775791	+9223372036854775792	+9223372036854775793	+9223372036854775794	+9223372036854775795	+9223372036854775796	+9223372036854775797	+9223372036854775798	+9223372036854775799	+9223372036854775800	+9223372036854775801	+9223372036854775802	+9223372036854775803	+9223372036854775804	+9223372036854775805	+9223372036854775806	+9223372036854775807	+9223372036854775808																																																																																																																																																																																																																											

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