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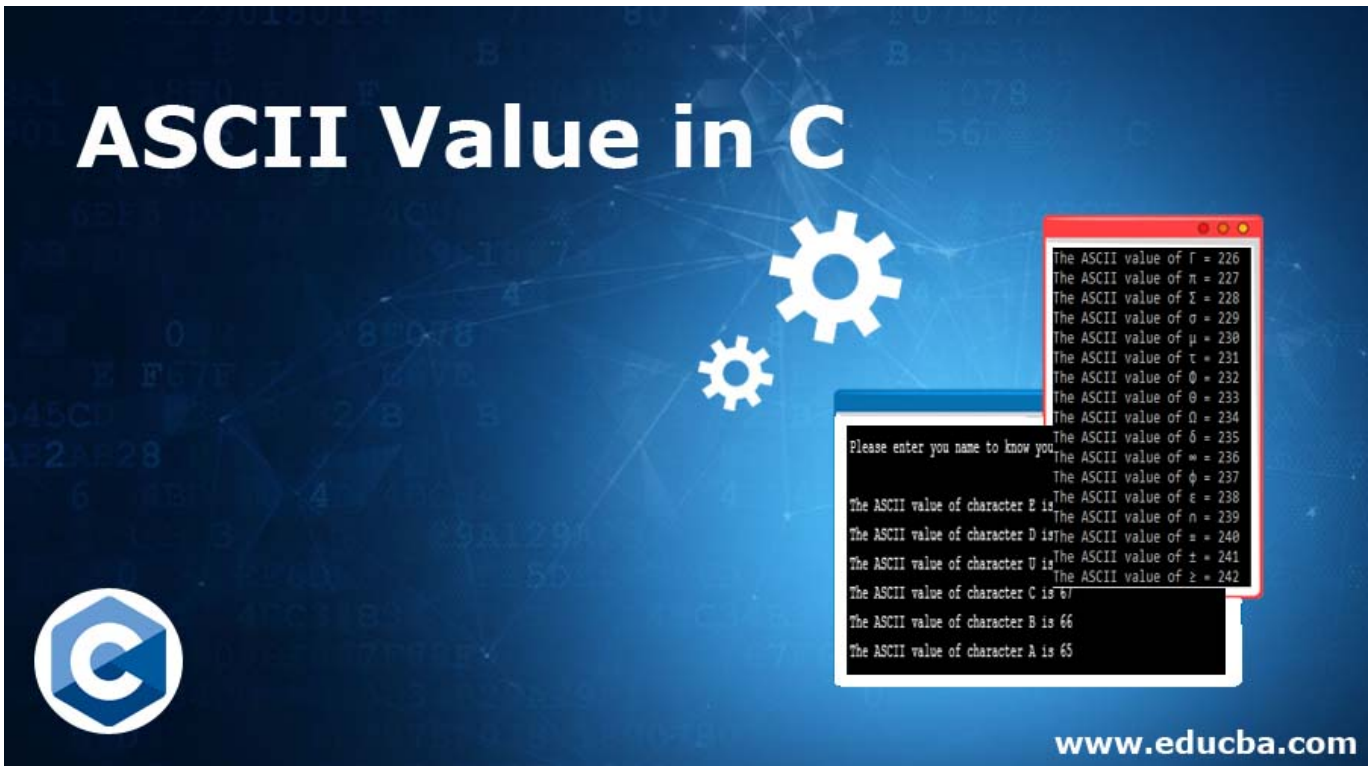

Introduction to ASCII Value in C

ASCII is abbreviated as the “American Standard Code for Information Interchange”. As we humans we have our language to understand the same way machine also have the same thing to understand characters, digits, special characters that is ASCII representation of the character.

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67. When we give input as 'B' machine treat it as 67 internally and stores its address. When we get back our original number compiler gives you 67 and other internal software converts these values into its equivalent characters.

ASCII values Table

Dec	Hx	Oct	Char	Dec	Hx	Oct	Html	Chr	Dec	Hx	Oct	Html	Chr	Dec	Hx	Oct	Html	Chr
0	0	000	NUL (null)	32	20	040		Space	64	40	100	@	@	96	60	140	`	`
1	1	001	SOH (start of heading)	33	21	041	!	!	65	41	101	A	A	97	61	141	a	a
2	2	002	STX (start of text)	34	22	042	"	"	66	42	102	B	B	98	62	142	b	b
3	3	003	ETX (end of text)	35	23	043	#	#	67	43	103	C	C	99	63	143	c	c
4	4	004	EOT (end of transmission)	36	24	044	$	$	68	44	104	D	D	100	64	144	d	d
5	5	005	ENQ (enquiry)	37	25	045	%	%	69	45	105	E	E	101	65	145	e	e
6	6	006	ACK (acknowledge)	38	26	046	&	&	70	46	106	F	F	102	66	146	f	f
7	7	007	BEL (bell)	39	27	047	'	'	71	47	107	G	G	103	67	147	g	g
8	8	010	BS (backspace)	40	28	050	(	(	72	48	110	H	H	104	68	150	h	h
9	9	011	TAB (horizontal tab)	41	29	051	)	)	73	49	111	I	I	105	69	151	i	i
10	A	012	LF (NL line feed, new line)	42	2A	052	*	*	74	4A	112	J	J	106	6A	152	j	j
11	B	013	VT (vertical tab)	43	2B	053	+	+	75	4B	113	K	K	107	6B	153	k	k
12	C	014	FF (NP form feed, new page)	44	2C	054	,	,	76	4C	114	L	L	108	6C	154	l	l
13	D	015	CR (carriage return)	45	2D	055	-	-	77	4D	115	M	M	109	6D	155	m	m
14	E	016	SO (shift out)	46	2E	056	.	.	78	4E	116	N	N	110	6E	156	n	n
15	F	017	SI (shift in)	47	2F	057	/	/	79	4F	117	O	O	111	6F	157	o	o
16	10	020	DLE (data link escape)	48	30	060	0	0	80	50	120	P	P	112	70	160	p	p
17	11	021	DC1 (device control 1)	49	31	061	1	1	81	51	121	Q	Q	113	71	161	q	q
18	12	022	DC2 (device control 2)	50	32	062	2	2	82	52	122	R	R	114	72	162	r	r
19	13	023	DC3 (device control 3)	51	33	063	3	3	83	53	123	S	S	115	73	163	s	s
20	14	024	DC4 (device control 4)	52	34	064	4	4	84	54	124	T	T	116	74	164	t	t
21	15	025	NAK (negative acknowledge)	53	35	065	5	5	85	55	125	U	U	117	75	165	u	u
22	16	026	SYN (synchronous idle)	54	36	066	6	6	86	56	126	V	V	118	76	166	v	v
23	17	027	ETB (end of trans. block)	55	37	067	7	7	87	57	127	W	W	119	77	167	w	w
24	18	030	CAN (cancel)	56	38	070	8	8	88	58	130	X	X	120	78	170	x	x
25	19	031	EM (end of medium)	57	39	071	9	9	89	59	131	Y	Y	121	79	171	y	y
26	1A	032	SUB (substitute)	58	3A	072	:	:	90	5A	132	Z	Z	122	7A	172	z	z
27	1B	033	ESC (escape)	59	3B	073	;	;	91	5B	133	[	[	123	7B	173	{	{
28	1C	034	FS (file separator)	60	3C	074	<	<	92	5C	134	\	\	124	7C	174			|
29	1D	035	GS (group separator)	61	3D	075	=	=	93	5D	135	]	]	125	7D	175	}	}
30	1E	036	RS (record separator)	62	3E	076	>	>	94	5E	136	^	^	126	7E	176	~	~
31	1F	037	US (unit separator)	63	3F	077	?	?	95	5F	137	_	_	127	7F	177	&#127;	DEL

128	Ç	144	É	160	á	176	▒	192	└	208	╨	224	α	240	≡
129	ü	145	æ	161	í	177	▒	193	┴	209	╤	225	ß	241	±
130	é	146	Æ	162	ó	178	▓	194	┬	210	╥	226	Γ	242	≥
131	â	147	ô	163	ú	179	|	195	├	211	╙	227	π	243	≤
132	ä	148	ö	164	ñ	180	┤	196	─	212	╘	228	Σ	244	⌠

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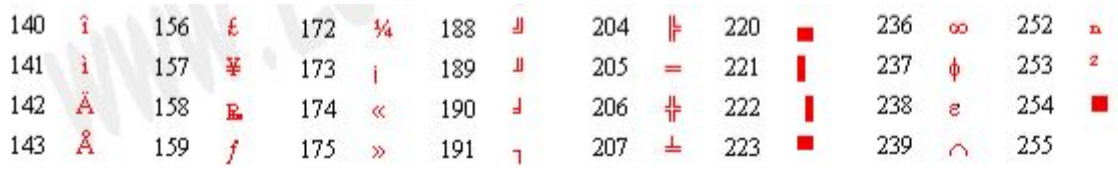

How does ASCII Value Represent Internally in C?

1. Let take an example string as “ABCDEFG HIJK LMNO”.

2. When we pass this instruction to machine it will not store it as“ABCDEFG HIJK LMNO” but instead it will store its equivalent ASCII value.

3. Therefore now machine stored value is “65 66 67 68 69 70 71 32 72 73 74 75 32 76 77 78 79”.

4. ASCII value is 65, B is 66, C is 67, and so on. Space ASCII value is:

Syntax:

```
int p;
for(int p=0;p<255;p++)
{
Printf(“%c,%d”,p,p);//%c is for display character and %d is for
ASCII value
}
```

Examples to Implement of ASCII Value in C

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```
//including basic C libraries
#include <stdio.h>
//main method for run C application
int main()
{
//declaration int variable
int capitalChars;
//iterating Capital ASCII values
for(capitalChars=65;capitalChars<91;capitalChars++)  // for loop
from 65 to 90
{
//display ASCII values for its equivalent characters
printf("\n\tThe equivalent ASCII for  %c character is %d",
capitalChars,capitalChars);
}
return 0;
}
```

Output:

```
The equivalent ASCII for  A charcter is 65
The equivalent ASCII for  B charcter is 66
The equivalent ASCII for  C charcter is 67
The equivalent ASCII for  D charcter is 68
The equivalent ASCII for  E charcter is 69
```

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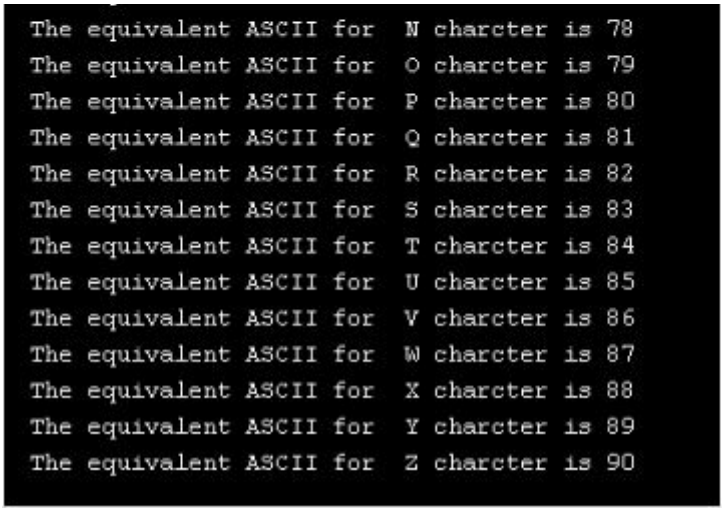

2. Small A to Z ASCII Values

Code:

```
//including basic C libraries
#include <stdio.h>
//main method for run C application
int main()
{
//declaration int variable
int lowerChars;
//iterating lowe case characters ASCII values
for(lowerChars=97;lowerChars<123;lowerChars++)  // for loop from
97 to 122

{
//display ASCII values for its equivalent characters
printf("\n\tThe equivalent ASCII for lower case %c character is
```

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Output:

```
The equivalent ASCII for lower case a character is 97
The equivalent ASCII for lower case b character is 98
The equivalent ASCII for lower case c character is 99
The equivalent ASCII for lower case d character is 100
The equivalent ASCII for lower case e character is 101
The equivalent ASCII for lower case f character is 102
The equivalent ASCII for lower case g character is 103
The equivalent ASCII for lower case h character is 104
The equivalent ASCII for lower case i character is 105
The equivalent ASCII for lower case j character is 106
The equivalent ASCII for lower case k character is 107
The equivalent ASCII for lower case l character is 108
The equivalent ASCII for lower case m character is 109
The equivalent ASCII for lower case n character is 110
The equivalent ASCII for lower case o character is 111
The equivalent ASCII for lower case p character is 112
The equivalent ASCII for lower case q character is 113
The equivalent ASCII for lower case r character is 114
The equivalent ASCII for lower case s character is 115
The equivalent ASCII for lower case t character is 116
The equivalent ASCII for lower case u character is 117
The equivalent ASCII for lower case v character is 118
The equivalent ASCII for lower case w character is 119
The equivalent ASCII for lower case x character is 120
The equivalent ASCII for lower case y character is 121
The equivalent ASCII for lower case z character is 122
```

3. Space ASCII Value

Code:


```
//including basic C libraries
#include <stdio.h>
//main method for run C application
```

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```
//iterating lowe case characters ASCII values
for(space=32;space<33;space++)  // for loop 32
{
//display ASCII values for its equivalent characters
printf("\n\tThe equivalent ASCII for space %c is %d",
space,space);
}
return 0;
}
```

Output:

```
The equivalent ASCII for space   is 32
```

4. Special Characters ASCII Values

Code:

```
//including basic C libraries
#include <stdio.h>
//main method for run C application
int main()
{
//declaration int variable
int specialChars;
//iterating lowe case characters ASCII values
for(specialChars=33;specialChars<48;specialChars++)  // for loop
```

```
specialChars,specialChars);
}
for(specialChars=58;specialChars<65;specialChars++)  // for loop from 58 to 64
{
//display ASCII values for its equivalent characters
printf("\n\tThe equivalent ASCII for %c special character is %d", specialChars,specialChars);
}
for(specialChars=123;specialChars<127;specialChars++)  // for loop from 123 to 126
{
//display ASCII values for its equivalent characters
printf("\n\tThe equivalent ASCII for %c special character is %d", specialChars,specialChars);
}
return 0;
}
```

Output:

```
The equivalent ASCII for ! special character is 33
The equivalent ASCII for " special character is 34
The equivalent ASCII for # special character is 35
The equivalent ASCII for $ special character is 36
The equivalent ASCII for % special character is 37
```

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```
The equivalent ASCII for . special character is 46
The equivalent ASCII for / special character is 47
The equivalent ASCII for : special character is 58
The equivalent ASCII for ; special character is 59
The equivalent ASCII for < special character is 60
The equivalent ASCII for = special character is 61
The equivalent ASCII for > special character is 62
The equivalent ASCII for ? special character is 63
The equivalent ASCII for @ special character is 64
The equivalent ASCII for { special character is 123
The equivalent ASCII for | special character is 124
The equivalent ASCII for } special character is 125
The equivalent ASCII for ~ special character is 126
```

5. All ASCII Values in One Place

Code:

```
//including basic C libraries
#include <stdio.h>
//main method for run C application
int main()
{
//declaration int variable
int allChars;
//iterating lowe case characters ASCII values
for(allChars=0;allChars<256;allChars++)  // for loop from 0 to 255
{
//display ASCII values for its equivalent characters
printf("\n\tThe ASCII value of %c is %d", allChars,allChars);
}
return 0;
```

```
The ASCII value of Σ = 228
The ASCII value of σ = 229
The ASCII value of μ = 230
The ASCII value of τ = 231
The ASCII value of Φ = 232
The ASCII value of Θ = 233
The ASCII value of Ω = 234
The ASCII value of δ = 235
The ASCII value of ∞ = 236
The ASCII value of ϕ = 237
The ASCII value of ε = 238
The ASCII value of ∩ = 239
The ASCII value of ≡ = 240
The ASCII value of ± = 241
The ASCII value of ≥ = 242
```

6. Given Name ASCII Values

Code:

```
//including basic C libraries
#include <stdio.h>
//main method for run C application
int main()
{
// declaring char array variable
char charArray[20];
// declaring int variable
int var=0;
//Asking user to enter any name
printf("\n\tPlease enter you name to know your name ASCII valu
");
scanf("%s", charArray);
while(charArray[var]!='\0')  // iterating array characters
```

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```
charArray[var],charArray[var]);
var++;
}
return 0;
}
```

Output:

```
Please enter you name to know your name ASCII values: EDUCBA

The ASCII value of character E is 69
The ASCII value of character D is 68
The ASCII value of character U is 85
The ASCII value of character C is 67
The ASCII value of character B is 66
The ASCII value of character A is 65
```

Conclusion

ASCII in C is used to represent numeric values for each character. This each character internally stored as ASCII value but not the same character we have given. We can display lower case, upper case alphabets, special characters etc. ASCII values by using their corresponding order. Present we have 255 ASCII characters are there in C.

Recommended Articles

This is a guide to ASCII Value in C. Here we discuss the Introduction to ASCII Value in C Table along with the different examples and code implementation. You can also go through our other suggested articles to learn more –

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