Question

What is the output of the following programs-

```
void main(){
int m, count=0;
for(int i=1;i<=m, i*=2)
{
 count+=1;
}
}
```

$i = i * 2$

$m = 10$ $\lfloor \log_2 10 \rfloor + 1$

$i = 1$ ✓
$i = 2$ ✓
$i = 4$ ✓   4 times
$i = 8$ ✓
$i = 16$ ✗

$\lceil \log_2 16 \rceil$

m

1 to m

count = 0

(a)   count=ceil(log m) - 1
(b)   count=floor(log m) + 1
(c)   count=ceil(log m)
(d)   count=floor(log m) - 1
(e)   None of the above

$$m = 16$$

$$\lfloor \log_2 16 \rfloor + 1$$

$$i = 1 \checkmark$$
$$i = 2 \checkmark$$
$$i = 4 \checkmark$$
$$i = 8 \checkmark$$
$$i = 16 \checkmark$$

$$5$$

$$\lfloor \; \rfloor$$

$$\text{floor}(3.9) = 3$$
$$\text{floor}(3.01) = 3$$
$$\text{floor}(-3.2) = -4$$

$$\text{ceil}(3.9) = 4$$
$$\text{ceil}(3.01) = 4$$
$$\text{ceil}(-3.2) = -3$$

```c
for (i = 0; i <= 4; i++)
{

}

printf("%.d", i);
```

Question

What is the output of the following programs-

```
void main(){
int i,j,k,count=0,n;
for(i=0;i<=n;i++){    13 times
 for(j=0;j<=n;j++){   13 * 13 times
  for(k=n/3;k<=n;k+=n/3)     13 * 13 + 3 times
   count++;    → 507
}
}
printf("%d,%d,%d,%d",i, j, k,©);     → count
}
```

$n = 12$

$i = \cancel{12}\ 13$

$j = \cancel{12}\ 13$

$k = \cancel{12}\ 16$

13,13,16,507

Question

What is the output of the following programs-

```
for(int i=k, j=m; k<=n && j>=t; k++, j--)
{

}
```

Assume initially k<n and m>t.
When will the loop terminate?
(a) k<=n || j>=t
(b) k<=n && j>=t
(c) k>n || j<t
(d) k>n && j<t

$$! \left(k <= n \ \&\& \ j >= t \right)$$

$$k > n \quad \text{OR} \quad j < t$$

Question

What is the output of the following programs-

```
void main(){
int i,j=1,count=0,n;
for(i=n;i>0;i/=2)
count=count+1;
while(j<n)
{
count; count-- ;
j*=2;
}
printf("%d",count); 1
}
```

$n = 16$

$j = 1 \; 2 \; 4 \; 8 \; 16$

$count = 0 \; 1 \; 2 \; 3 \; 4 \; 5 \; 4 \; 3 \; 2 \; 1$

$i = 16 \; 8 \; 4 \; 2 \; 1 \; 0$

Question

What is the output of the following programs-

```c
void main(){
int i, j, count=0, n;
for(i=1; i<n; i*=2){
 for(j=1; j<n; j*=2){
count++;
break;
}
}
}
do
{
Count--;
} while(0);
printf("%d,%d,%d",i, j, count); 16, 1 ,3
}
```

$$n = 16$$

$$i = 1 \ 2 \ 4 \ 8 \ 16$$

$$j = 1$$

$$count = 0 \ 1 \ 2 \ 3 \ 4 \ 3$$

Question

Which of the following is not valid identifier?

A. Abc_123
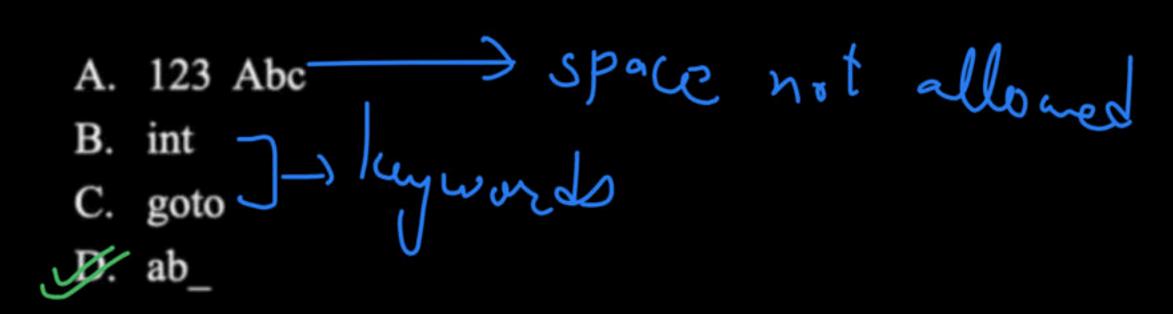B. _123Abc
C. Abc123_
D. Abc@123

Question

Which of the following is valid identifier?

A. Abc ✓
B. !$Abc
C. Abc^123
D. Abc 123

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Question

Which of the following is valid identifier?

A. 123 Abc $\longrightarrow$ space not allowed

B. int $\Big] \rightarrow$ keywords

C. goto

D. ab_

Question

Which of the following is not unary operator?

need only one operand

A. ++

B. -

C. sizeof

D. ?: → *ternary operator*

Question

Which of the following is necessary while evaluating the expressions?

A. Only associativity is to be taken care. There is no need of precedence.

B. Only precedence is to be taken care. There is no need of associativity.

C. Both associativity and precedence have to be taken care of.

D. Precedence is necessary but associativity is automatically taken care by the machine.

E. Associativity is necessary but precedence is automatically taken care by the machine.

Question

Predict the output of the following program:

```c
#include <stdio.h>
int main()
{
   printf("%lu %lu %lu %lu", sizeof(char), sizeof(int), sizeof(float), sizeof(double));
   getch();
   return 0;
}
```

1   2   4   8

a) 1 4 4 8

b) 1 2 4 8

c) 1 2 4 16

d) 1 4 8 16

e) Machine dependent

Question

Predict the output of the following program:

```c
#include <stdio.h>
void main(){
    short z='a';
    z+=2;
    z++;
    printf("%c,%d", z,z);
    getch();
}
```

a) d,100

b) a,97

c) c,99

d) Compilation Error

e) Runtime Error

Question

Predict the output for the following program:

```c
#include <stdio.h>
int main(){
    int s = 0;
    int t= (~s == 1);
    s=~s;
    printf("%d,%d",s, t);
    return 0;
}
```

a) 1,0

b) 0,0

c) -1,0

d) 255,0

e) Compiler Dependent

Question

Predict the following program's output:

```c
void main(){
    int x=10,y=20,z=30;
    x=x+y-z;
    z=z<<1;
    x=(x==0)?(x=y<<1&0):z;
    y=10--;
    printf("%d,%d,%d",x,y,z);
}
```

a) 0,10,60

b) 1,10,60

c) 1,9,60

d) 0,9,60

e) Compilation Error

Question

Predict the output of the following program:

```c
int main()
{
    int x=2,y=3,z;
    z=(x&y)?10:20;
    z=z&(z-1);
    printf("%d",z);
    return 0;
}
```

a) 10
b) 20
c) 8
d) 2
e) 3

Question

Find the output of the following program.

```c
#include<stdio.h>
int main()
{
    printf("%d",printf("GATE EXAM"));
    getch();
    return 0;
}
```

a) Compilation Error
b) 9GATE EXAM
c) GATE EXAM1
d) 1GATE EXAM
e) GATE EXAM9

Question

Find the output of the following program.

```c
#include<stdio.h>
int main()
{
    printf("%d",printf("%d",printf("GATE EXAM")));
    getch();
    return 0;
}
```

a) Compilation Error
b) GATE EXAM91
c) GATE EXAM910
d) 19GATE EXAM
e) 109GATE EXAM

Question

Predict the output of the following program:

```c
int main()
{
    int x,y,z;
    x=y=z=10<<1;
    y=y>>1^3;
    z=10-3*2*2+20<<1 && 8-6/3*2;
    printf("%d,%d,%d",x, y, !z);
}
```

a) 20,9,1
b) 20,1000,0
c) 20,9,0
d) 20,1000,1
e) Compiler error

Happy Learning.!

pointers,
array
2-D array
structure
union

functns
parameter passing
macros
constants
local & global