GL Bajaj Institute of Technology and Management, Gr. Noida
MCA-BMC 102 Uni1 – 01, Tutorial 8 Oct 2025

1. Explain following in C
   a.void b. short int c.float d. # e. Typecasting
2. What is the difference between #define and const?
3. What do you understand by cyclic nature of data types in C
4. Differentiate between following
   a. 'g' and "g"   b. 10 and int a
   c. literal and identifier   d. main() and int main
5. How getch(), getche(), getchar () and gets() functions are different in C
6. Can we compile a C program without the main() function? How it will execute ?
7. Find the output of Following

a.
```c
int main()
{ int main = 3;
  printf("%d", main);
  return 0;
}
```

b.
```c
#include <stdio.h>
void main()
{     1 < 2 ? return 1: return 2;
}
```

c.
```c
#include<stdio.h>
int main()
{  int i;
  printf("%d\n", scanf("%d", &i));
  return 0;
}
```

d.
```c
void main{
char s="INDIA
printf("%10s", s);
}
```

e.
```c
#include<stdio.h>
void main()
{  int a = 97;
   int b = sizeof(a++);
   printf("Value of a  is %d", a);
```

f.
```c
#include<stdio.h>
int main()
{     float x=3.15529;
      printf("%2.1f\n", x);
      return 0;
}
```

g.
```c
#include<stdio.h>
int main()
{
    printf("%c\n", ~('C'*-1));
    return 0;
}
```

h.
```c
#include  <stdio.h>
int main()
{     signed char chr;
      chr = 128;
      printf("%d\n", chr);
      return 0;
}
```

i.
```c
#include  <stdio.h>
int main()
{  signed char chr;
   chr = 128;
   printf("%d\n", chr);
   return 0;
}
```

j.
```c
#include<stdio.h>
int main()
{ int n =1;
printf("%d == 1 is" "%s\n", n, n==1?"TRUE":"FALSE");
  return 0;
}
```

k.
```c
#include <stdio.h>
int main()
{  int d, a = 1, b = 2,c=3;
   d =  a++ +++b + ++c +b++;
   printf("%d %d %d %d", d, a, b,c);
}
```

l.   include <stdio.h>

```c
        int main()
        {   int c = 2 ^ 3;
            printf("%d\n", c);
        }
```

m.
```c
        #include <stdio.h>
        void main()
        {   int a = 5, b = -7, c = 0, d;
            d = ++a && ++b || ++c;
            printf("\n%d%d%d%d", a, b, c, d);
        }
```

n.
```c
        #include <stdio.h>
        int main()
        {  unsigned int a = 10;
           a = ~a;
           printf("%d\n", a);
        }
```

o.
```c
        #include <stdio.h>
        int main()
        {
           if (7 & 8)
           printf("Welcome");
             if ((~7 & 0x000f) == 8)
                printf("Have a nice Day!\n");
        }
```

p.
```c
        int main()
        {   int x = -2;
            x = x >> 1;
            printf("%d\n", x);
        }
```

q.
```c
        #include <stdio.h>
        void main()
        {   int x = 7;
          int y = 0 == 1 && x++;
          printf("%d%d\n", x, y);
        }
```

r.
```c
        #include <stdio.h>
        int main()
        {   int x = 2, y = 2;
            x /= x / y;
            printf("%d\n", x);
```

```c
            return 0;
        }
```

s.
```c
        #include <stdio.h>
        int main()
        {   int a = 1, b = 2;
            a += b -= a;
            printf("%d %d", a, b);
        }
```

t.
```c
        #include <stdio.h>
        int main()
        {   int x = 2, y = 0;
            int z = (y++) ? y == 1 && x : 0;
            printf("%d\n", z);
            return 0;
        }
```

u.
```c
        include<stdio.h>
        int main()
        {    char c=48;
            int i, mask=01;
            for(i=1; i<=5; i++)
            {
               printf("%c", c|mask);
               mask = mask<<1;
            }
            return 0;
        }
```

v.
```c
        #include<stdio.h>
        int main()
        { int i=32, j=0x20, k, l, m;
          k=i|j;
          l=i&j;
          m=k^l;
          printf("%d, %d, %d, %d, %d\n", i, j, k, l, m);
          return 0;
        }
```

```c
        #include<stdio.h>
        int main()
        {       enum color{ black, blue, red, green } ;
                printf("%d %d", black,red);
                return 0;}
```