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Q.3 → What is meant by storage classes of variable? Define all types of storage classes with example?

Ans → Storage class → Storage class is used to describe following properties of the variable, Location, Default value, Scop of variable, and Life of variable

There are four types of storage classes available in c:

1. Automatic storage classes (This is the default class)
   1. Keyword → auto
   2. Default value → Garbage
   3. Storage → Memory (Ram)
   4. Scope of variable → Limited to blocks which is declared
   5. Life → Till the execution of the blocks in which it is declared

Declaration → : auto type of variable variable list;

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Example →

```
# include <stdio.h
# include <conio.h
main()
{
    auto int x = 5;
    Printf("%d\n", x);
    {
        int x = 2;
        Printf("%d\n", x
    }
    Printf("%d\n", x
}
```

Output :- x = 5
x = 2
x = 5

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Register storage class :-

1. Keyword → register
2. Default value → Garbage
3. Storage → register
4. Scop of variable → Limited to the block in which its declared
5. Life of variable → Till the execution of the block in which its is declared

Declaration → Register type of variable variable list.

Example :-

```
#include <stdio.h>
#include <conio.h>
main()
{
    register int k;
    for(k=0; k<5; k++)
    printf("\n Hello");
    getch();
}
```

Output →

Hello
Hello
Hello
Hello
Hello

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(3) Static Storage class :

(1) → Keyword → Static
(2) → Default value → 0 (zero)
(3) → Storage → Memory (RAM)
(4) → Scop of variable → Limited to the blocks in which it is declared.
(5) → Life of variable → Till the end of programe

Declaration → Static type of variable

for Example →

```
void f1();
main()
{
    f1();
    f1();
}
void f1()
{
    static int i;
    i++;
```

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printf ("i = %d \n", i);

output => 1, 2 Ans

4> External storage class:-

① Keyword → extern
② Default value → zero (0)
③ Storage → Memory (RAM)
④ Scop of variable → Global
⑤ Life of variable → Till the end of Program

Declaration => External type of variable

for ex=>

```
int x;
main()
{
  printf("x = %d", x);
  f1();
  printf("x = %d", x);
}
```

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```
void f1()
{
  x++;
  printf("x = %d", x);
}
```

Output => 0, 1, 1 Ans