C Programming Questions and Answers – Declarations – 1

This section on C interview questions and answers focuses on "Declarations". One shall practice these interview questions to improve their C programming skills needed for various interviews (campus interviews, walkin interviews, company interviews), placements, entrance exams and other competitive exams. These questions can be attempted by anyone focusing on learning C Programming language. They can be a beginner, fresher, engineering graduate or an experienced IT professional. Our C Interview questions come with detailed explanation of the answers which helps in better understanding of C concepts.

Here is a listing of C interview questions on "Declarations" along with answers, explanations and/or solutions:

1. What is the output of this C code?

```
#include <stdio.h>

void foo(const int *);

int main()

{

        const int i = 10;

        printf("%d ", i);

        foo(&i);

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

```
        }

        void foo(const int *i)

        {

            *i = 20;

        }
```

a) Compile time error

b) 10 20

c) Undefined value

d) 10

View Answer

Answer:a

Explanation:Cannot change a const type value.

Output:

$ cc pgm1.c

pgm1.c: In function 'foo':

pgm1.c:13: error: assignment of read-only location '*i'

2. Comment on the output of this C code?

```c
#include <stdio.h>

int main()

{

        const int i = 10;

        int *ptr = &i;

        *ptr = 20;

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

        return 0;

}
```

a) Compile time error

b) Compile time warning and printf displays 20

c) Undefined behaviour

d) 10

View Answer

Answer:b

Explanation:Changing const variable through non-constant pointers invokes compiler warning

Output:

$ cc pgm2.c

pgm2.c: In function 'main':

pgm2.c:5: warning: initialization discards qualifiers from pointer target type

$ a.out

20

3. What is the output of this C code?

```c
#include <stdio.h>

int main()

{

    j = 10;

    printf("%d\n", j++);

    return 0;

}
```

a) 10

b) 11

c) Compile time error

d) 0

View Answer

Answer:c

Explanation:Variable j is not defined.

Output:

$ cc pgm3.c

pgm3.c: In function 'main':

pgm3.c:4: error: 'j' undeclared (first use in this function)

pgm3.c:4: error: (Each undeclared identifier is reported only once

pgm3.c:4: error: for each function it appears in.)

4. Does this compile without error?

```
#include <stdio.h>

int main()

{

        for (int k = 0; k < 10; k++);

            return 0;

}
```

a) Yes

b) No

c) Depends on the C standard implemented by compilers

d) None of the mentioned

View Answer

Answer:c

Explanation:Compilers implementing C90 does not allow this but compilers implementing C99 allow it.

Output:

$ cc pgm4.c

pgm4.c: In function 'main':

pgm4.c:4: error: 'for' loop initial declarations are only allowed in C99 mode

pgm4.c:4: note: use option -std=c99 or -std=gnu99 to compile your code

5. Does this compile without error?

```
#include <stdio.h>

int main()

{

        int k;

        {

                int k;
```
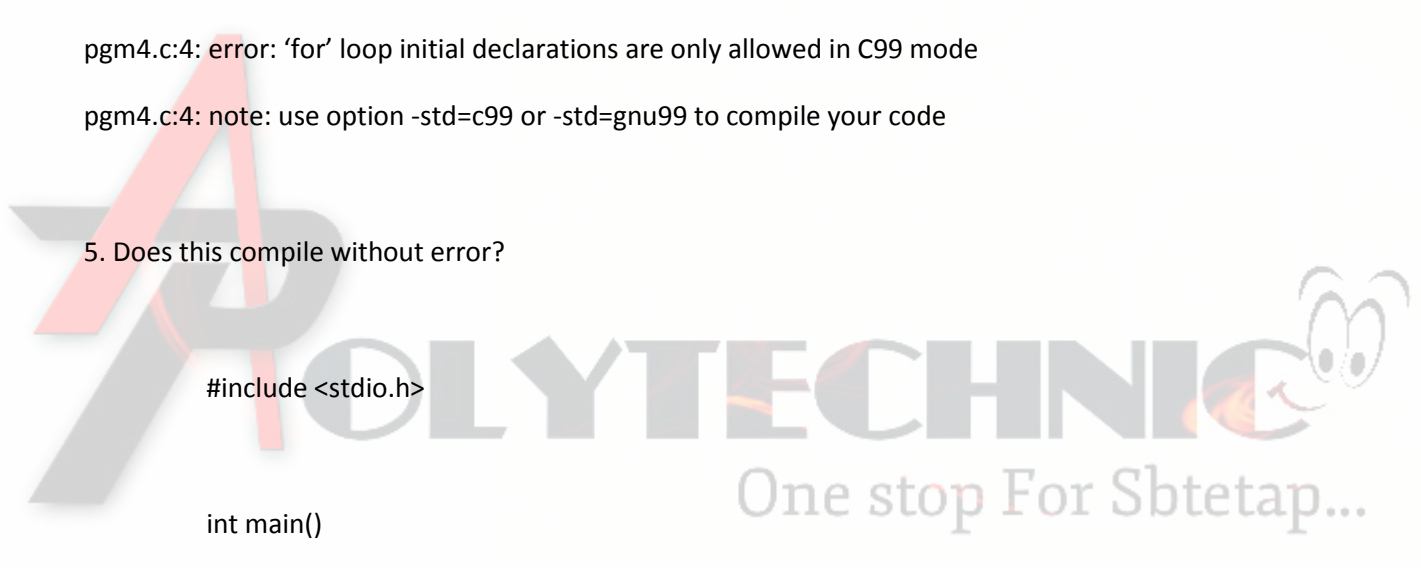
```
                    for (k = 0; k < 10; k++);


            }


        }
```

a) Yes

b) No

c) Depends on the compiler

d) Depends on the C standard implemented by compilers

View Answer

Answer:a

Explanation:There can be blocks inside block and within blocks variables have only block scope.

Output:

$ cc pgm5.c

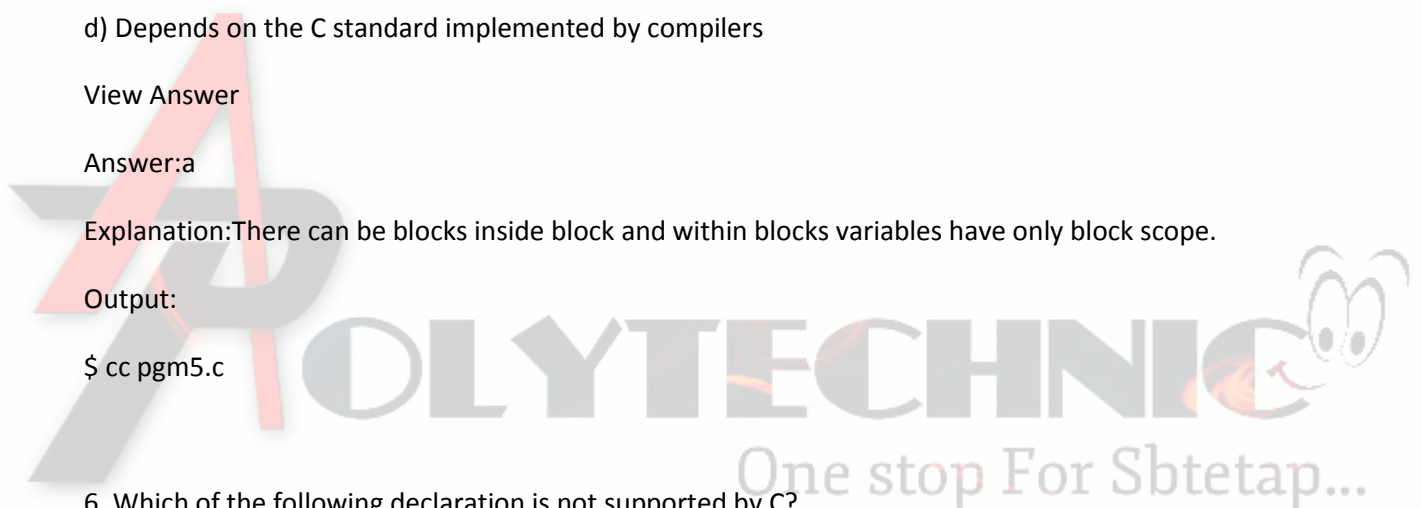6. Which of the following declaration is not supported by C?

a) String str;

b) char *str;

c) float str = 3e2;

d) Both (a) and (c)

View Answer

Answer:a

Explanation:It is legal in Java, not in C.

7.

```c
#include <stdio.h>

int main()

{

        char *var = "Advanced Training in C by Sanfoundry.com";

}
```

Which of the following format identifier can never be used for the variable var?

a) %f

b) %d

c) %c

d) %s

View Answer

Answer:a

Explanation:%c can be used to print the indexed position. %d can still be used to display its ASCII value. %s is recommended.

%f cannot be used.