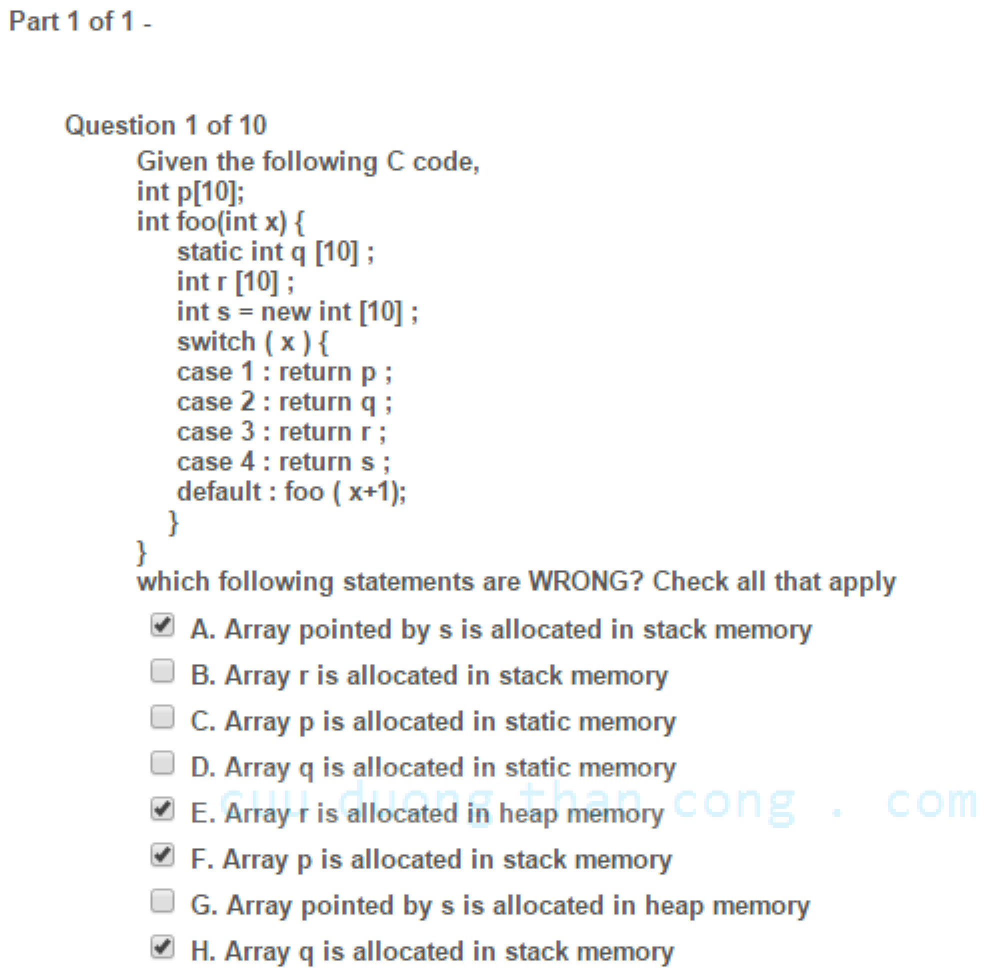


Part 1 of 1 -

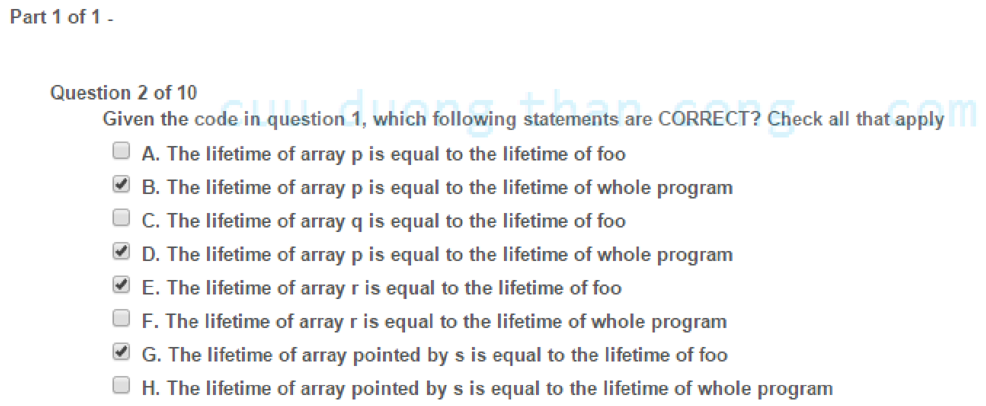
Question 1 of 10

Given the following C code,

```
int p[10];
int foo(int x) {
    static int q [10] ;
    int r [10] ;
    int s = new int [10] ;
    switch ( x ) {
    case 1 : return p ;
    case 2 : return q ;
    case 3 : return r ;
    case 4 : return s ;
    default : foo ( x+1);
    }
}
```

which following statements are WRONG? Check all that apply

- ☑ A. Array pointed by s is allocated in stack memory
- □ B. Array r is allocated in stack memory
- □ C. Array p is allocated in static memory
- □ D. Array q is allocated in static memory
- ☑ E. Array r is allocated in heap memory
- ☑ F. Array p is allocated in stack memory
- □ G. Array pointed by s is allocated in heap memory
- ☑ H. Array q is allocated in stack memory



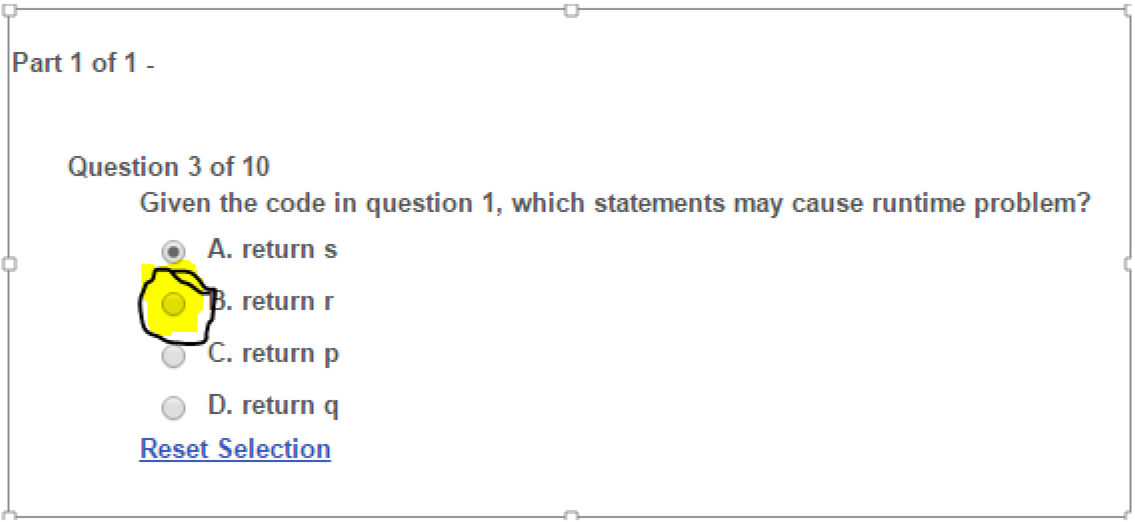
Part 1 of 1 -

Question 2 of 10

Given the code in question 1, which following statements are CORRECT? Check all that apply

- □ A. The lifetime of array p is equal to the lifetime of foo
- ☑ B. The lifetime of array p is equal to the lifetime of whole program
- □ C. The lifetime of array q is equal to the lifetime of foo
- ☑ D. The lifetime of array p is equal to the lifetime of whole program
- ☑ E. The lifetime of array r is equal to the lifetime of foo
- □ F. The lifetime of array r is equal to the lifetime of whole program
- ☑ G. The lifetime of array pointed by s is equal to the lifetime of foo
- □ H. The lifetime of array pointed by s is equal to the lifetime of whole program

Bỏ G



Part 1 of 1 -

Question 3 of 10

Given the code in question 1, which statements may cause runtime problem?

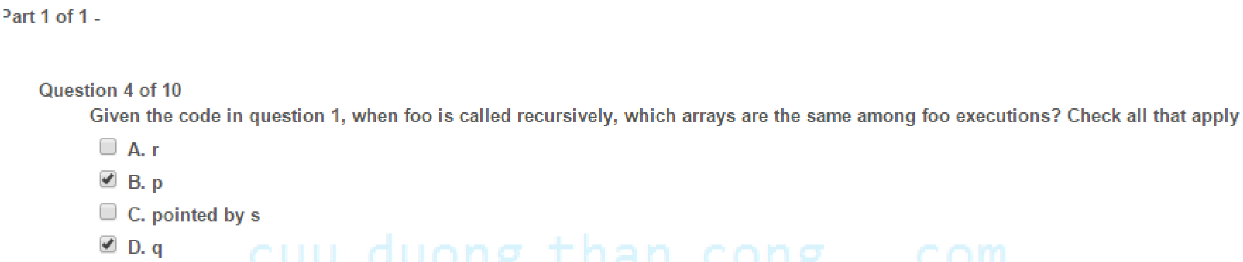
● A. return s

○ [✓ B. return r]

○ C. return p

○ D. return q

Reset Selection



Part 1 of 1 -

Question 4 of 10

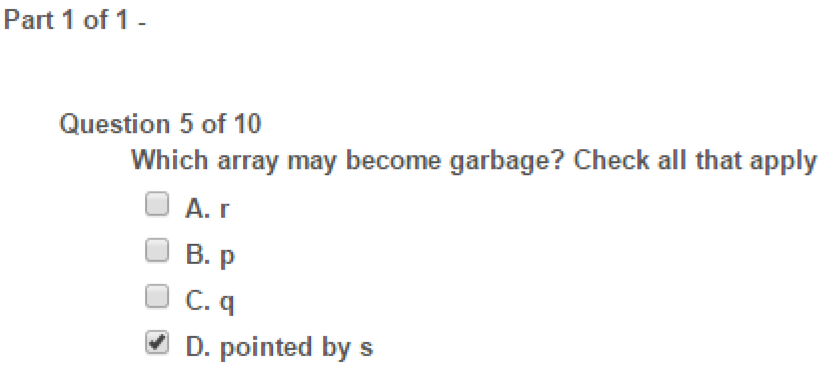
Given the code in question 1, when foo is called recursively, which arrays are the same among foo executions? Check all that apply

□ A. r

☑ B. p

□ C. pointed by s

☑ D. q



Part 1 of 1 -

Question 5 of 10

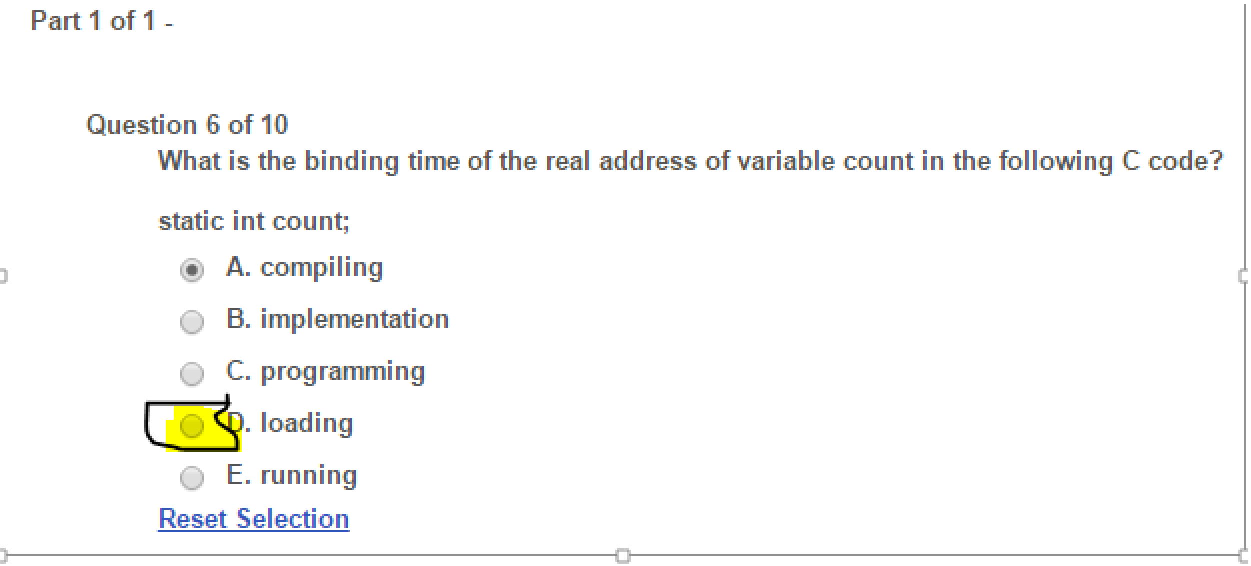
Which array may become garbage? Check all that apply

□ A. r

□ B. p

□ C. q

☑ D. pointed by s



Part 1 of 1 -

Question 6 of 10

What is the binding time of the real address of variable count in the following C code?

```
static int count;
```

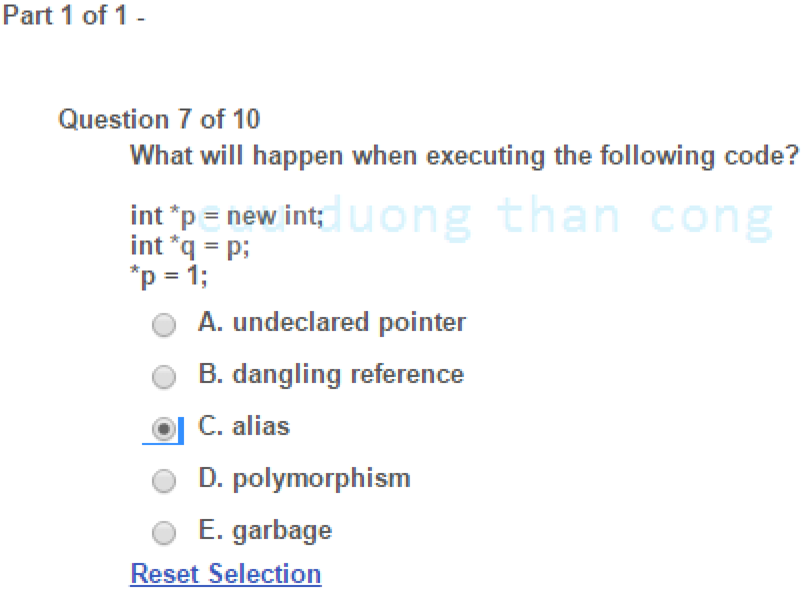
● A. compiling

○ B. implementation

○ C. programming

[✓ ○ D. loading]

○ E. running



Part 1 of 1 -

Question 7 of 10

What will happen when executing the following code?

```
int *p = new int;
int *q = p;
*p = 1;
```

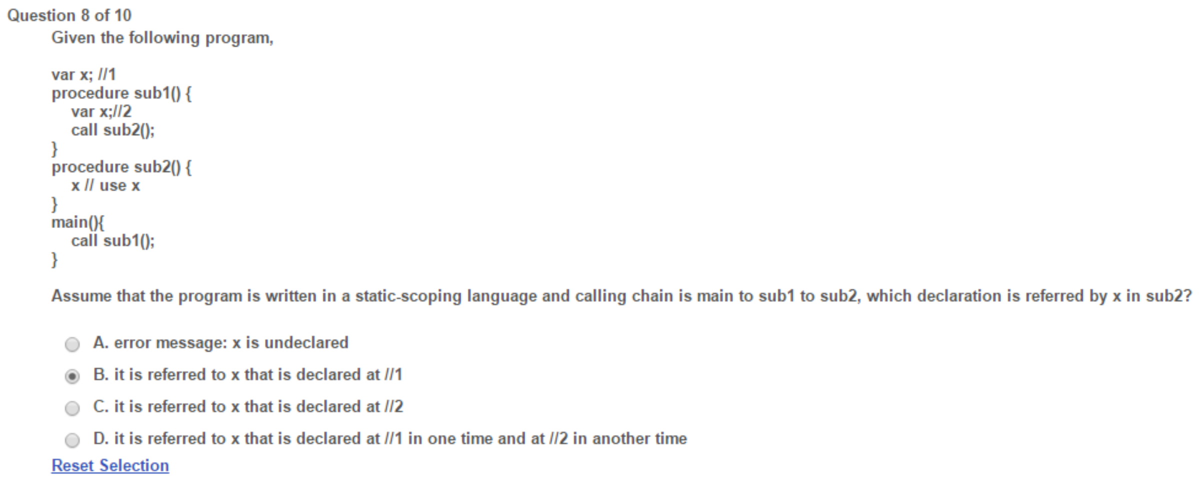
○ A. undeclared pointer

○ B. dangling reference

● C. alias

○ D. polymorphism

○ E. garbage



Question 8 of 10

Given the following program,

```
var x; //1
procedure sub1() {
    var x;//2
    call sub2();
}
procedure sub2() {
    x // use x
}
main(){
    call sub1();
}
```

Assume that the program is written in a static-scoping language and calling chain is main to sub1 to sub2, which declaration is referred by x in sub2?

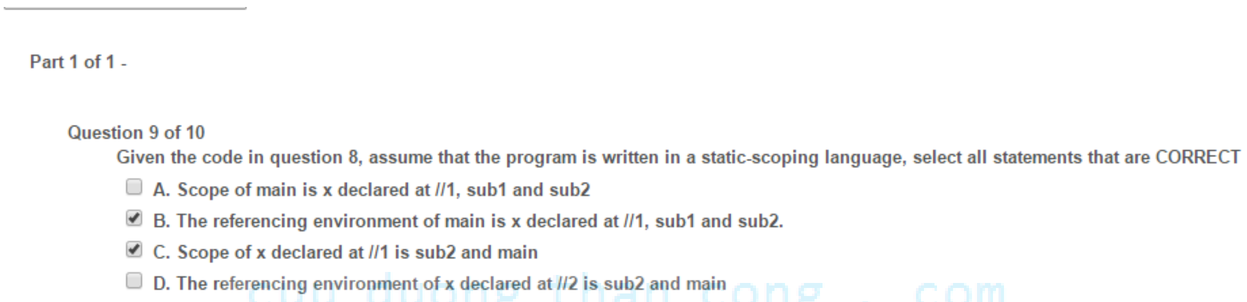
○ A. error message: x is undeclared

● B. it is referred to x that is declared at //1

○ C. it is referred to x that is declared at //2

○ D. it is referred to x that is declared at //1 in one time and at //2 in another time

Reset Selection



Part 1 of 1 -

Question 9 of 10

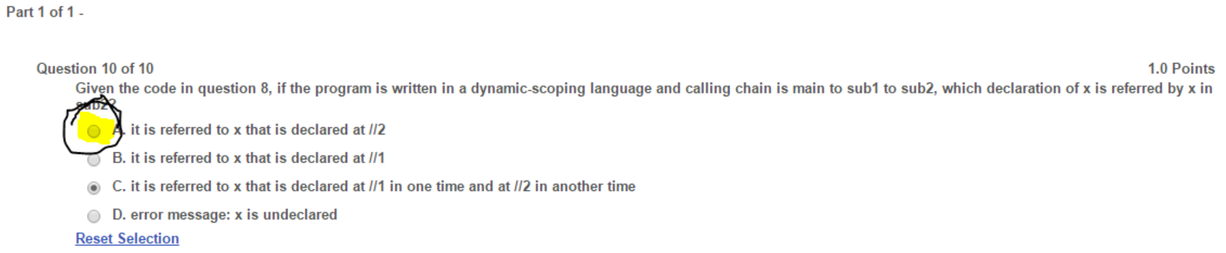
Given the code in question 8, assume that the program is written in a static-scoping language, select all statements that are CORRECT

☐ A. Scope of main is x declared at //1, sub1 and sub2

☑ B. The referencing environment of main is x declared at //1, sub1 and sub2.

☑ C. Scope of x declared at //1 is sub2 and main

☐ D. The referencing environment of x declared at //2 is sub2 and main



Part 1 of 1 -

Question 10 of 10 1.0 Points

Given the code in question 8, if the program is written in a dynamic-scoping language and calling chain is main to sub1 to sub2, which declaration of x is referred by x in sub2?

○ [✓ A. it is referred to x that is declared at //2]

○ B. it is referred to x that is declared at //1

● C. it is referred to x that is declared at //1 in one time and at //2 in another time

○ D. error message: x is undeclared

Reset Selection