

AMCAT Iteration, Recursion, Decision Questions

Question 1

Find the output of the program

```
#include<stdio.h>
int main()
{
    int x;
    for(x=-1; x<=10; x++)
    {
        if(x < 5)
            continue;
        else
            break;
        printf("Alpingi");
    }
    return 0;
}
```

A.Infinite times

B.11 times

C.0 times

D.10 times

Answer : C

Question 2

Predict the output of the questions –

Function main()

```
{
    double d = 123.4
    static float f =123.4
    if (m equals i)
        print "Both of them are equal"
    else if( f > d )
        print "Float is greater"
    else
        print "Double is greater"
}
```

A.Float is greater

B.Double is greater

C.Both of them are equal

D.Code will generate error

Answer: Option C

Explanation:

Equals is not a function to compare float and double

Question 3

As a project, Parag wants to write a code which should increment its value until a condition is satisfied. Which type of structure should he be using?

- A.For
- B.While
- C.Do while
- D.Perforate

Answer: Option C

Explanation:

Do while is exactly what the questions says for loop does the same thing but not in the exact scenario as the question

Question 4

Find the output of the program

```
#include<stdio.h>
int main()
{
    int i=1;
    for(;;)
    {
        printf("%d\n", i++);
        if(i>10)
            break;
    }
    return 0;
}
```

- A.There should be a condition in the for loop
- B.The two semicolons should be dropped
- C.The for loop should be replaced with while loop.
- D.No error

Answer : Option D

Explanation:

Step 1: for(;;) this statement will generate infinite loop.

Step 2: printf("%d\n", i++); this statement will print the value of variable i and increment i by 1(one).

Step 3: if(i>10) here, if the variable i value is greater than 10, then the for loop breaks.

Hence the output of the program is

- 1
- 2
- 3

- 4
- 5
- 6
- 7
- 8
- 9
- 10

Question 5

Integer a = 20, b =10, c = 20, d =10

Print a*b/c-d

Print a*b/(c-d)

Will the output be same for the two ?

- A.The output will have a difference of 20
- B.Will be same
- C.Cant be said depends on compiler
- D.Differ by 100

Answer: Option A

Question 6

Predict the output of the following code

```
int p = 1256, q ,r, s=10; q=p/s; r=p-q; print r;
```

- A.126
- B.1131
- C.125.6
- D.1130.6

Answer: B

Explation:

$1256/10 = 125$ $1256 - 125 = 1131$

Question 7

Find output of the below code

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
    int i = 10, j = 20;
```

```
    if(i = 5) && if(j = 10)
```

```
        printf("Have a nice day");
```

```
    return 0;
```

```
}
```

- A.Output: Have a nice day
- B.No output

- C.Error: Expression syntax
- D.Error: Undeclared identifier if

Answer: Option C

Explanation:

"Expression syntax" error occur in this line `if(i = 5) && if(j = 10)`.
It should be like `if((i == 5) && (j == 10))`

Question 8

Point out the error in the following code

```
#include<stdio.h>
int main()
{
    int i = 10, j = 15;
    if(i % 2 = j % 3)
        printf("Alpingi");
    return 0;
}
```

- A.Error: Expression syntax
- B.Error: Lvalue required
- C.Error: Rvalue required
- D.The Code runs successfully

Answer: Option B

Explanation: `if(i % 2 = j % 3)` This statement generates "LValue required error". There is no variable on the left side of the expression to assign (`j % 3`).

Question 9

```
#include<stdio.h>
int main()
{
    int i = 0;
    i++;
    if(i <= 5)
    {
        printf("Alpingi");
        exit(0);
        main();
    }
    return 0;
}
```

- A.The program prints 'Alpingi'5 times
- B.The program prints 'Alpingi'one time

- C.The call to main() after exit() doesn't materialize.
- D.The compiler reports an error since main() cannot call itself.

Answer: Option B

Explanation :

Step 1: int i = 0; here variable i is declared as an integer type and initialized to '0'(zero).

Step 2: i++; here variable i is incremented by 1(one). Hence, i = 1

Step 3: if(i <= 5) becomes if(1 <= 5) here we are checking '1' is less than or equal to '5'. Hence the if condition is satisfied.

Step 4: printf("IndiaBIX\n"); It prints "IndiaBIX"

Step 5: exit(); terminates the program execution.

Hence the output is "IndiaBIX".

Question 10

How many times the while loop will get executed if a short int is 2 byte wide?

```
#include<stdio.h>
int main()
{
    int j=1;
    while(j <= 255)
    {
        printf("%c %d\n", j, j);
        j++;
    }
return 0;
}
```

- A.Infinite times
- B.255 times
- C.256 times
- D.254 times

Answer: Option B

Explanation: The while(j <= 255) loop will get executed 255 times. The size short int(2 byte wide) does not affect the while() loop.