

Part 6(macros)

Total points 30/39 ?

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✓ Q32) Macros have a local scope. *

1/1

☐ True☒ False

✓ Q25) *

1/1

Point out the error in the program

```
#include<stdio.h>
#define SI(p, n, r) float si; si=p*n*r/100;
int main()
{
    float p=2500, r=3.5;
    int n=3;
    SI(p, n, r);
    SI(1500, 2, 2.5);
    return 0;
}
```

- ☐ A. 26250.00 7500.00
- ☐ B. Nothing will print
- ☒ C. Error: Multiple declaration of si
- ☐ D. Garbage values

✓

✓ Q30) There exists a way to prevent the same file from getting #included twice in the same program. *1/1

- ☒ True
- ☐ False

✓



✓ Q11) *

1/1

Output?

```
# include <stdio.h>
# define scanf "%s Geeks Quiz "
int main()
{
    printf(scanf, scanf);
    return 0;
}
```

- 1) Compiler Error
- 2) %s Geeks Quiz
- 3) Geeks Quiz
- 4) %s Geeks Quiz Geeks Quiz

- ☐ 1
- ☐ 2
- ☐ 3
- ☒ 4



✓ Q13) *

1/1

Output?

```
#include<stdio.h>
#define f(g,g2) g##g2
int main()
{
    int var12 = 100;
    printf("%d", f(var,12));
    return 0;
}
```

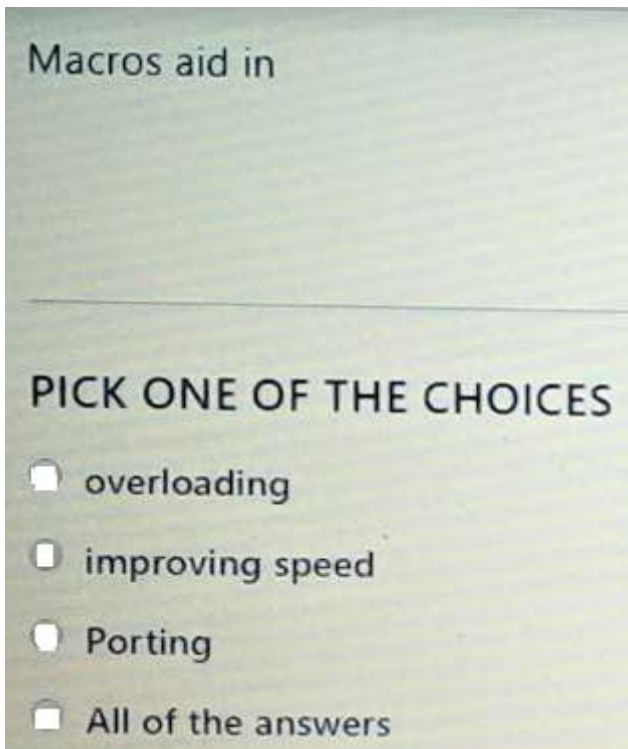
- 1) 100
- 2) CompilerError
- 3) 0

- ☒ 1
- ☐ 2
- ☐ 3



✗ Q2) *

0/1

☒ A☐ B☐ C☐ D

Correct answer

☒ D

✗

✓ Q34) In a macro call the control is passed to the macro. *

1/1

☐ True☒ False

✓



✓ Q17) *

1/1

```
#include<stdio.h>
#define SWAP(a, b, c) (c t; t=a, a=b, b=t)
int main()
{
    int x=10, y=20;
    SWAP(x, y, int);
    printf("%d %d\n", x, y);
    return 0;
}
```

- ☐ A. It compiles
- ☐ B. Compiles with an warning
- ☒ C. Not compile
- ☐ D. Compiles and print nothing



✓ Q26) *

1/1

Point out the error in the program

```
#include<stdio.h>

int main()
{
    int i;
    #if A
        printf("Enter any number:");
        scanf("%d", &i);
    #elif B
        printf("The number is odd");
    return 0;
}
```

- ☒ A. Error: unexpected end of file because there is no matching #endif
- ☐ B. The number is odd
- ☐ C. Garbage values
- ☐ D. None of above



✓ Q16) *

1/1

```
#define message "union is\  
power of c"  
void main(){  
    printf("%s",message);  
}
```

(a) union is power of c
(b) union ispower of c
(c) union is
Power of c
(d) Compiler error
(e) None of these

- ☐ a
- ☒ b
- ☐ c
- ☐ d
- ☐ e



✓ Q21) *

1/1

What will be the output of the program?

```
#include<stdio.h>
#define FUN(arg) do\
    {\
        if(arg)\
            printf("IndiaBIX...", "\n");\
    }while(--i)

int main()
{
    int i=2;
    FUN(i<3);
    return 0;
}
```

- ☐ A. IndiaBIX...IndiaBIX...IndiaBIX
- ☒ B. IndiaBIX... IndiaBIX...
- ☐ C. Error: cannot use control instructions in macro
- ☐ D. No output

✓

✓ Q35)The preprocessor can trap simple errors like missing declarations, nested comments or mismatch of braces. *1/1

- ☐ True
- ☒ False

✓



✓ Q29) Preprocessor directive #undef can be used only on a macro that has *1/1 been #define earlier

☒ True



☐ False

✓ Q20) *

1/1

What will be the output of the program?

```
#include<stdio.h>
#define CUBE(x) (x*x*x)

int main()
{
    int a, b=3;
    a = CUBE(b++);
    printf("%d, %d\n", a, b);
    return 0;
}
```

☐ A. 9, 4

☐ B. 27, 4

☒ C. 27, 6



☐ D. Error

✓ Q31) Macro calls and function calls work exactly similarly *

1/1

☐ True

☒ False



✓ Q36) *

1/1

Will the program compile successfully?

```
#include<stdio.h>
#define X (4+Y)
#define Y (X+3)

int main()
{
    printf("%d\n", 4*X+2);
    return 0;
}
```

☐ yes☒ No

✓ Q19) *

1/1

What will be the output of the program?

```
#include<stdio.h>
#define SQUARE(x) x*x

int main()
{
    float s=10, u=30, t=2, a;
    a = 2*(s-u*t)/SQUARE(t);
    printf("Result = %f", a);
    return 0;
}
```

- ☒ A. Result = -100.000000
- ☐ B. Result = -25.000000
- ☐ C. Result = 0.000000
- ☐ D. Result = 100.000000



✗ Q12) *

0/1

```
#include <stdio.h>
#define a 10
int main()
{
    printf("%d ", a);

    #define a 50

    printf("%d ", a);
    return 0;
}
```

- 1) Compiler Error
- 2) 10 50
- 3) 50 50
- 4) 10 10

- ☒ 1
- ☐ 2
- ☐ 3
- ☐ 4

✗

Correct answer

- ☒ 2

Feedback

Preprocessor doesn't give any error if we redefine a preprocessor directive. It may give warning though. Preprocessor takes the most recent value before use of and put it in place of a.



✓ Q22) *

1/1

```
#include<stdio.h>
#define MIN(x, y) (x<y)? x : y;
int main()
{
    int x=3, y=4, z;
    z = MIN(x+y/2, y-1);
    if(z > 0)
        printf("%d\n", z);
    return 0;
}
```

- ☒ A. 3
- ☐ B. 4
- ☐ C. 0
- ☐ D. No output



✗ Q6) *

0/1

```
#include <stdio.h>
#if X == 3
    #define Y 3
#else
    #define Y 5
#endif

int main()
{
    printf("%d", Y);
    return 0;
}
```

What is the output of the above program?

- 1) 3
- 2) 5
- 3) 3 or 5 depending on value of X
- 4) Compile time error

- ☐ 1
- ☐ 2
- ☐ 3
- ☒ 4

✗

Correct answer

- ☒ 2

Feedback

In the first look, the output seems to be compile-time error because macro X has not been defined. In C, if a macro is not defined, the pre-processor assigns 0 to it by default. Hence, the control goes to the conditional else part and 5 is printed. See the next question for better understanding.



✗ Q27) *

0/1

Which of the following are correctly formed `#define` statements in C?

- [A]. `#define CUBE (X) (X*X*X);`
- [B]. `#define CUBE(x) (X*X*X)`
- [C]. `#define CUBE(X)(X*X*X)`
- [D]. `#define CUBE(X) {X*X*X}`

☐ A☒ B☐ C☐ D

Correct answer

☒ C

✗

Feedback

A and B will not work because option A has semicolon and preprocessor doesn't have semicolon.

In option B the x is a lowercase argument and used as uppercase.



✓ Q3) *

1/1

The #ifdef and #endif are used to ...

PICK ONE OF THE CHOICES

- ☐ define macros
- ☐ remove code during pre-processing time
- ☐ specify compiler and linker options

- ☐ A
- ☒ B
- ☐ C



✓ Q38) *

1/1

```
#include <stdio.h>
#define get(s) #s

int main()
{
    char str[] = get(GeeksQuiz);
    printf("%s", str);
    return 0;
}
```

- ☐ Compiler Error
- ☐ #GeeksQuiz
- ☒ GeeksQuiz
- ☐ GGeeksQuiz



✓ Q15) *

1/1

What will be output if you will
compile and execute the following c code?

```
void main(){  
    printf("%s",__DATE__);  
}
```

- (a) Current system date
- (b) Current system date with time
- (c) null
- (d) Compiler error
- (e) None of these

☒ a☐ B☐ C☐ D☐ e

✓ Q24)*

1/1

What will be the output of the program?

```
#include<stdio.h>
#define MAX(a, b, c) (a>b ? a>c ? a : c: b>c ? b : c)

int main()
{
    int x;
    x = MAX(3+2, 2+7, 3+7);
    printf("%d\n", x);
    return 0;
}
```

- ☐ A. 5
- ☐ B. 9
- ☒ C. 10
- ☐ D. 3+7



✓ Q33)Macros with arguments are allowed *

1/1

- ☒ True
- ☐ False



✓ Q23) *

1/1

What will be the output of the program?

```
#include<stdio.h>
#define MESS junk

int main()
{
    printf("MESS\n");
    return 0;
}
```

- ☐ A. junk
- ☒ B. MESS
- ☐ C. Error
- ☐ D. Nothing will print



✓ Q5)*

1/1

```
#include <stdio.h>
#define PRINT(i, limit) do \
{ \
    if (i++ < limit) \
    { \
        printf("GeeksQuiz\n"); \
        continue; \
    } \
}while(1)

int main()
{
    PRINT(0, 3);
    return 0;
}
```

How many times **GeeksQuiz** is printed in the above program?

- ☐ 1
- ☐ 2
- ☐ 3
- ☒ compile time-error



✓ Q14) *

1/1

Which file is generated after pre-processing of a C program?

1) .p

2) .i

3) .o

4) .m

☐ 1☒ 2☐ 3☐ 4

✓ Q18) *

1/1

What will be the output of the program?

```
#include<stdio.h>
#define MAN(x, y) ((x)>(y)) ? (x):(y);

int main()
{
    int i=10, j=5, k=0;
    k = MAN(++i, j++);
    printf("%d, %d, %d\n", i, j, k);
    return 0;
}
```

- ☒ A. 12, 6, 12
- ☐ B. 11, 5, 11
- ☐ C. 11, 5, Garbage
- ☐ D. 12, 6, Garbage



✓ Q10) *

1/1

```
#include <stdio.h>
#define square(x) x*x
int main()
{
    int x;
    x = 36/square(6);
    printf("%d", x);
    return 0;
}
```

- 1) 1
- 2) 36
- 3) 0
- 4) Compiler Error

- ☐ 1
- ☒ 2
- ☐ 3
- ☐ 4



✗ Q9) *

0/1

```
#include <stdio.h>
#define ISEQUAL(X, Y) X == Y
int main()
{
    #if ISEQUAL(X, 0)
        printf("Geeks");
    #else
        printf("Quiz");
    #endif
    return 0;
}
```

Output of the above program?

- 1) Geeks
- 2) Quiz
- 3) Any of Geeks or Quiz
- 4) Compile time error

☐ 1☐ 2☐ 3☒ 4

✗

Correct answer

☒ 1

Feedback

The conditional macro #if ISEQUAL(X, 0) is expanded to #if X == 0. After the pre-processing is over, all the undefined macros are initialized with default value 0. Since macro X has not been defined, it is initialized with 0. So, Geeks is printed.



Q40)Write a program without main function *

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

```
void my_constructor(void) __attribute__((constructor));
```

```
void my_constructor(void) {  
    printf("This code runs before main.\n");  
}
```

```
int main(void) {  
    printf("This is the main function.\n");  
    return 0;  
}
```

Feedback

```
#define fanc main  
void fanc ()  
{  
printf("hello");  
}
```



✓ Q7) *

1/1

What is the output of following program?

```
#include <stdio.h>
#define macro(n, a, i, m) m##a##i##n
#define MAIN macro(n, a, i, m)
```

```
int MAIN()
{
    printf("GeeksQuiz");
    return 0;
}
```

1) **Compiler Error**

2) **GeeksQuiz**

3) **MAIN**

4) **main**

☐ 1

☒ 2

☐ 3

☐ 4



✓ Q39) *

1/1

Suppose someone writes increment macro (i.e. which increments the value by one) in following ways:

```
#define INC1(a) ((a)+1)
```

```
#define INC2 (a) ((a)+1)
```

```
#define INC3( a ) (( a ) + 1)
```

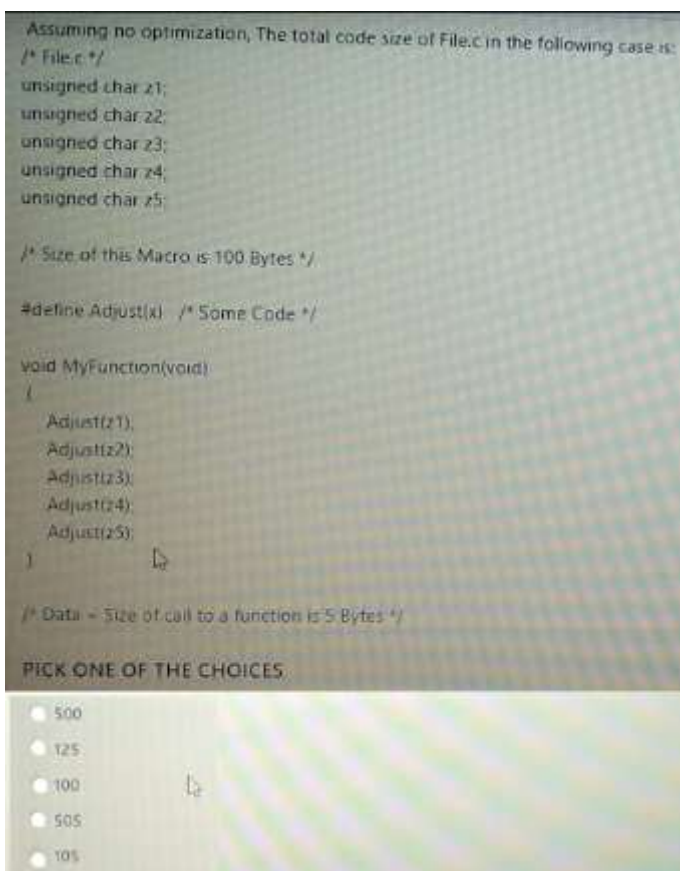
```
#define INC4 ( a ) (( a ) + 1)
```

- ☐ Only INC1 is correct.
- ☐ All (i.e. INC1, INC2, INC3 and INC4) are correct.
- ☒ Only INC1 and INC3 are correct.
- ☐ Only INC1 and INC2 are correct.



✗ Q1) *

0/1

☒ A☐ B☐ C☐ D☐ E

Correct answer

☒ D

✗



✗ Q8) *

0/1

```
#include <stdio.h>
#define X 3
#if !X
    printf("Geeks");
#else
    printf("Quiz");

#endif
int main()
{
    return 0;
}
```

- 1) Geeks
- 2) Quiz
- 3) Compiler Error
- 4) Runtime Error

☐ 1☒ 2☐ 3☐ 4

✗

Correct answer

☒ 3**Feedback**

A program is converted to executable using following steps 1) Preprocessing 2) C code to object code conversion 3) Linking The first step processes macros. So the code is converted to following after the preprocessing step.

```
printf("Quiz")
int main()
{
    return 0;
}
```

The above code produces error because printf() is called outside main.



✗ Q28)If the file to be included doesn't exist, the preprocessor flashes an error message. *0/1

☐ True

☒ False



Correct answer

☒ True

Feedback

True, the included file does not exist it will generate the error.



✓ Q4) *

1/1

The #pragma is used to ...

PICK ONE OF THE CHOICES

- ☐ define macros
- ☐ remove code during pre-processing time
- ☐ specify compiler and linker options

☐ A

☐ B

☒ C



✖ Q37)It is necessary that a header files should have a .h extension? *

0/1

☒ Yes



☐ No

Correct answer

☒ No

Feedback

No, the header files have any kind of extension.

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