



Online Exams

Sri Lanka Institute of Information Technology

Suppose that 10 students face an aptitude test at SLIIT and the marks are stored in an array called **marks**. You are asked to complete the following C program to find the number of pass and fail students. The pass mark is the average mark of the students.

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

```
int main(void)
```

```
{
```

```
    float marks[10] = { 75.00, 45.00, 61.00, 91.00, 55.00, 43.00, 78.00, 56.00, 95.00, 12.00};
```

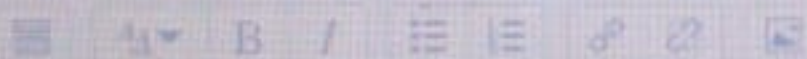
```
    //.....
```

```
    //.....
```

```
    //.....
```

```
    return 0;
```

```
}
```



Write two assert statements to test the following function.

```
int calculatePoints(float purchaseAmount)
{
    if(purchaseAmount >= 5000)
        return 500;
    else if(purchaseAmount >= 3000)
        return 200;
    else if(purchaseAmount >= 1000)
        return 100;
    else
        return 25;
}
```




Online Exams

Sri Lanka Institute of Information Technology

Question

Not yet answered

Marked out of 5.00

Flag question

A bank is giving complements for their customers who open a new account on the new year day.

The following flowchart is drawn to decide the prize given for a customer.

Write the relevant instructions (Block 1 -5) in the given space.

Opening Balance	Prize
Less than 10000 or 10000	Umbrella
More than 10000 but less than 50000	Traveling bag
50000 or more	Rice cooker

Start

Block 01

Balance < 10000

False

Block 02

False

Quiz

1

MCQ (2 MARKS)

1

2

8

9

ESSAY (5 MARKS)

11

12

13

18

19

20

ESSAY (10 MARKS)

25

FEEDBACK

26



Complete the following C program to solve the given expression. Use **Standard C math library function**.

$$C = \sqrt{a^2 + b^2 - 2ab \cos \theta}$$

Hint : if angle is 90 degrees, cosine will be $\cos(90 * 3.141592/180)$

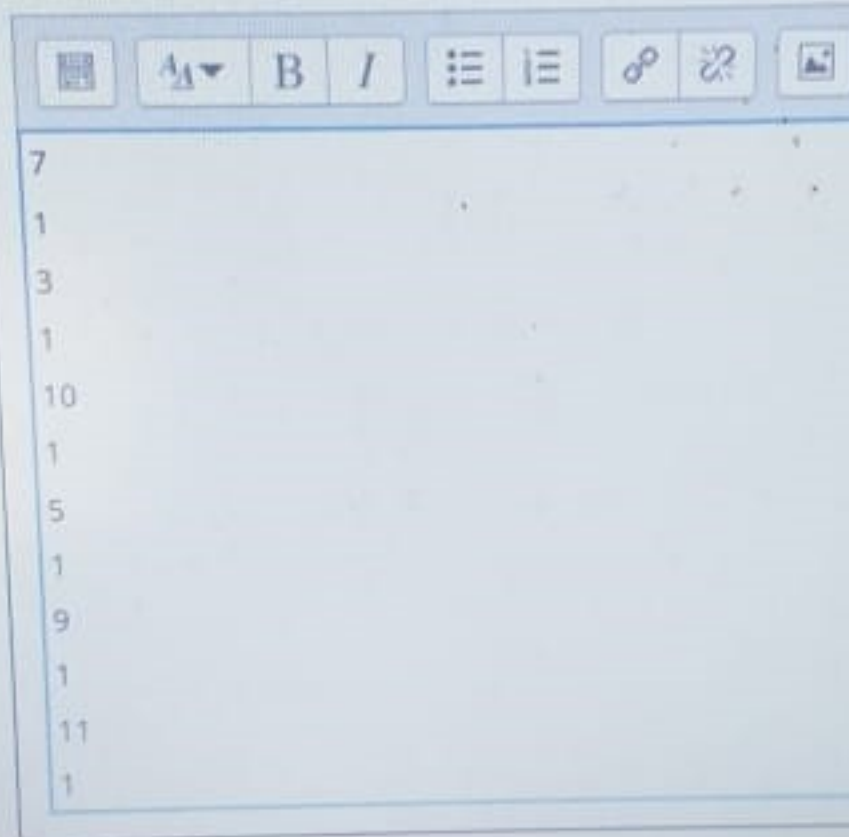
```
#include <stdio.h>
# include <math.h>
int main()
{
    float a = 3, b = 4, c;
    float angle = 90 * 3.141592/180;
    _____
    _____
    return 0;
}
```



9	for(int k=1;k<=6;k++)
10	for(int k=j;k<=6;k++)
11	if (j == k)
12	else

Output

```
*****
*****
*****
*****
*****
*****
```



FULL HD 1080

acer

Esc

F1

F2

F3

F4

F5

F6

F7

F8

F9

~

!

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#

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1

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€

6

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8



Question 17

Not yet answered

Marked out of 5.00

Flag question

Consider the following table having two columns. First column has line numbers and the second has different expressions. Write the line numbers of the relevant statements in correct order to obtain the following output.

No	Supportive components for program writing
1	{
2	}
3	for(int j=0;j<=6;j++)
4	printf("* ");
5	for(int j=1;j<=6;j++)
6	printf("\n ");
7	for(int j=0;j<=16;j++)
8	for(int j=1;j == 6;j++)
9	for(int k=1;k<=6;k++)
10	for(int k=j;k<=6;k++)
11	if (j == k)
12	else

Output

```
*****
*****
*****
*****
*****
*****
```

FULL HD 1080

acer

Esc

F1

F2

F3

F4

F5

F6

F7

F8

F9

F10

!

@

#

\$

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^

&

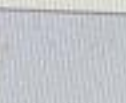

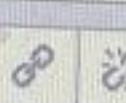
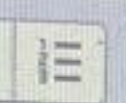

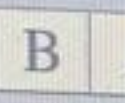
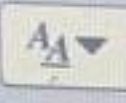

*

A company gives annual increments for their employees based on the following table.

Employee Category	increment %
A	4
B	6
C	8

increment amount = increment percentage * salary

Implement a function called calIncrement() which calculates the increment when the salary and the empl are passed as the parameters.





Question 15

Not yet answered

Marked out of 5.00

Flag question

A 2D array called **att** is used to store the attendance of 4 students in a class. A sample dataset is shown below.

1	0	1	1	1
1	1	1	1	1
1	1	0	1	1
1	1	1	1	1

Complete the following C code to determine and display the students (row number) who has attended to the class all five days.

In this example the students numbers are 2, 4

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

```
int main(void)
```

```
{
```

```
    int att[5][5] = {{1, 0, 1, 1, 1}, {1, 1, 1, 1, 1}, {1, 1, 0, 1, 1}, {1, 1, 1, 1, 1}, {1, 1, 1, 1, 0}};
```

```
    .....
```

```
    .....
```

```
    .....
```

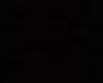
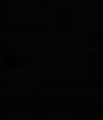
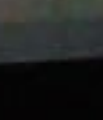
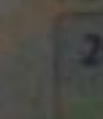
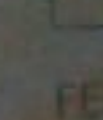
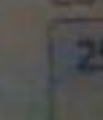
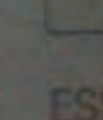
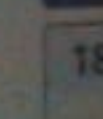
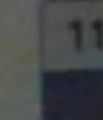
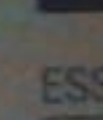
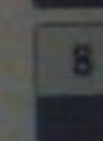
```
    return 0;
```

```
}
```

Quiz na



MCQ (2 MA





Question 17

Not yet answered

Marked out of 5.00

Flag question

A restaurant provides facility for their customers to check the price of the food items using an online menu. The menu details (item code, description and price) are stored in a text file called "menu.dat". Complete the following C code to display the menu on the screen.

A sample of menu.dat file is given below (ignore the headings)

item code	description	price
S1	Prawns	675.00
S2	Fish	850.00
S3	Chicken	575.00

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

```
int main(void)
```

```
{
```

```
.....
```

```
.....
```

```
.....
```

```
.....
```

```
return 0;
```

```
}
```

Quiz navigation



MCQ (2 MARKS)



ESSAY (3 MARKS)



ESSAY (10 MARKS)



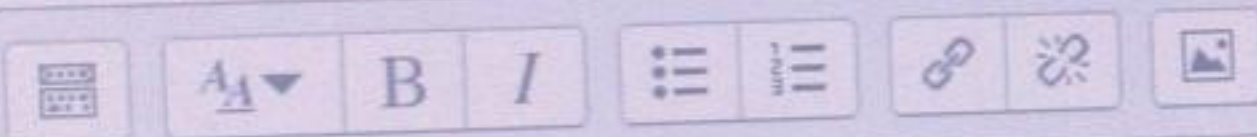


A bank uses a function called `newBalance()` to calculate the new account balance of a customer when the transaction type(w - withdrawal , d - deposit), deposit or withdrawal amount and current balance are given.

Implement a function called `newBalance()` which takes the transaction type(w - withdrawal , d - deposit), amount and current balance as parameters and calculate and return the new balance.

e.g. for withdrawal , new balance = current balance - amount

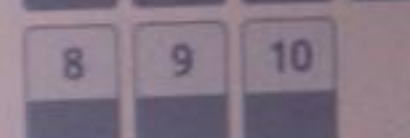
for deposit, new balance = current balance + amount



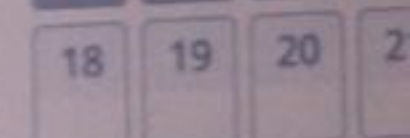
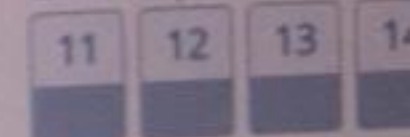
Quiz navigation



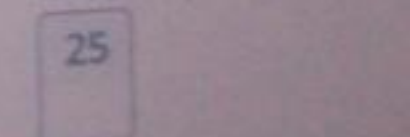
MCQ (2 MARKS EACH)



ESSAY (5 MARKS EACH)



ESSAY (10 MARKS EACH)



FEEDBACK



The following flowchart is drawn to decide the prize given for a customer. Write the relevant instructions (Block 1 -5) in the given space.

Transaction amount	Prize
More than 10000 or 10000	Sugar 1kg
Less than 10000 but more than 5000	Dhal 1kg
5000 or less	A soap



A company gives annual increments for their employees based on the following table.

Employee Category	Increment %
A	4
B	6
C	8

increment amount = increment percentage * salary

Implement a function called `calIncrement()` which calculates the increment when the salary and the employee category are passed as the parameters.



Question 17

Not yet answered

Marked out of 5.00

Flag question

A restaurant provides facility for their customers to check the price of the food items using an online menu. The menu details (item code, description and price) are stored in a text file called "menu.dat". Complete the following C code to display the menu on the screen.

A sample of menu.dat file is given below (ignore the headings)

item code	description	price
S1	Prawns	675.00
S2	Fish	850.00
S3	Chicken	575.00

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

```
int main(void)
```

```
{
```

```
.....
```

```
.....
```

```
.....
```

```
.....
```

```
return 0;
```

```
}
```


Question 3

Not yet answered

Marked out of
2.00

Flag question

Select incorrect statement/s regarding "w" file opening mode.

FILE *ptr;

ptr = fopen("readMe.dat", "w");

Select one:

- ☐ 1. If the file doesn't exist, the file pointer will be always null
- ☐ 2. The "readMe.dat" file will be empty
- ☐ 3. The content will be added to the beginning of the file
- ☒ 4. If the file exist, it will over write the previous content.
- ☐ 5. If the file doesn't exist, a new file will be created.

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acer

Shift



Online Exams

Sri Lanka Institute of Information Technology

Question 5

Not yet answered

Marked out of 2.00

Flag question

The C statement `if (x == 1) || (y == 2) {}` can be re-written as

Select one:

- ☐ 1. if (x == 1) {}
if (y == 2) {}
- ☐ 2. if (x == 1) {}
else if (y == 2) {}
- ☐ 3. if (x == 1) || (y == 2) {}
- ☐ 4. if (x == 1) {}
if (y == 2) {}
- ☐ 5. if (x == 1) {}
if (y == 2) {}

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acer

No	Supportive components for program writing
1	{
2	}
3	for(int j=0;j<=6;j++)
4	printf("* ");
5	for(int j=1;j<=6;j++)
6	printf("\n ");
7	for(int j=0;j<=16;j++);
8	for(int j=1;j == 6;j++)
9	for(int k=1;k<=6;k++)
10	for(int k=j;k<=6;k++)
11	if (j == k)
12	else

Output

```
* * * * *
* * * * *
* * * *
* * *
* *
*
```




Question 17

Not yet answered

Marked out of 5.00

Flag question

Consider the following table having two columns. First column has line numbers and the second has different expressions. Write the line numbers of the relevant statements in correct order to obtain the following output.

No	Supportive components for program writing
1	{
2	}
3	for(int j=0;j<=6;j++)
4	printf("* ");
5	for(int j=1;j<=6;j++)
6	printf("\n ");
7	for(int j=0;j<=16;j++);
8	for(int j=1;j == 6;j++)
9	for(int k=1;k<=6;k++)
10	for(int k=j;k<=6;k++)
11	if (j == k)
12	else

Output

```
*****
*****
*****
*****
*****
*****
```

FULL HD 1080

acer

Esc

F1

F2

F3

F4

F5

F6

F7

F8

F9

F10

!

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&

*



Question 7

Not yet answered

Marked out of 2.00

Flag question

A student has written the following C code to calculate the average height of students in the class. The program should read the heights from the keyboard until the user input -99. However program executes in an infinite loop.

```
float height, total, avg;  
int count = 0;  
printf("Pls input the height");  
scanf("%f", &height);  
while ( height != -99)  
{  
    total = total + height;  
}  
avg = total / 5;  
printf("%.2f", avg);
```

Select the reason to have a infinite loop during execution.

Select one:

- ☐ 1. The condition in the while loop is incorrect.
- ☐ 2. The total and avg variables are not initialized.
- ☐ 3. The scanf statement to take the keyboard inputs is not included inside the loop.
- ☐ 4. The count variable is not initialize with 1.
- ☒ 5. The value of count variable has not been changed inside the loop.

Save Answer

≡ Q

1

MCQ / 2

1

2

9

10

ESSAY / 5

11

12

19

20

21

ESSAY / 10

21

QUESTION

24

Priority question

Time left: 1:29:55

Suppose that 10 students face an aptitude test at SLIIT and the marks are stored in an array called **marks**. You are asked to complete the following C program to find the number of pass and fail students. The pass mark is the average mark of the students.

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

```
int main(void)
```

```
{
```

```
    float marks[10] = { 75.00, 45.00, 61.00, 91.00, 55.00, 43.00, 78.00, 56.00, 95.00, 12.00};
```

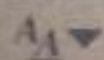
```
    .....
```

```
    .....
```

```
    .....
```

```
    return 0;
```

```
}
```



A shop maintains the item list in a text file called "item.dat". Complete the following C code to input the item details (item code , description , unit price, quantity) of 5 products from the keyboard and add new records to the existing file.

A sample of existing file is given below.

001 Sugar 135.00 150

002 Milk 345.00 55

003 Rice 98.00 200

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

```
int main(void)
```

```
{
```

```
.....
```

```
.....
```

```
.....
```

```
return 0;
```

```
}
```



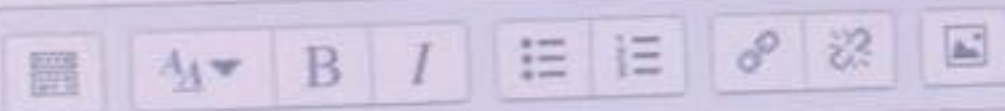


A bank uses a function called `newBalance()` to calculate the new account balance of a customer when the transaction type(w - withdrawal , d - deposit), deposit or withdrawal amount and current balance are given.

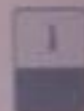
Implement a function called `newBalance()` which takes the transaction type(w - withdrawal , d - deposit), amount and current balance as parameters and calculate and return the new balance.

e.g. for withdrawal , new balance = current balance - amount

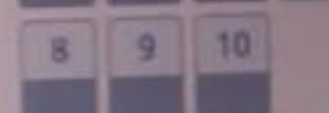
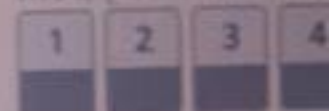
for deposit, new balance = current balance + amount



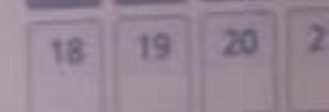
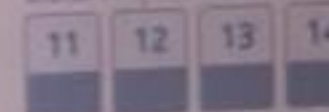
Quiz navigation



MCQ (2 MARKS EACH)



ESSAY (5 MARKS EACH)



ESSAY (10 MARKS EACH)



FEEDBACK

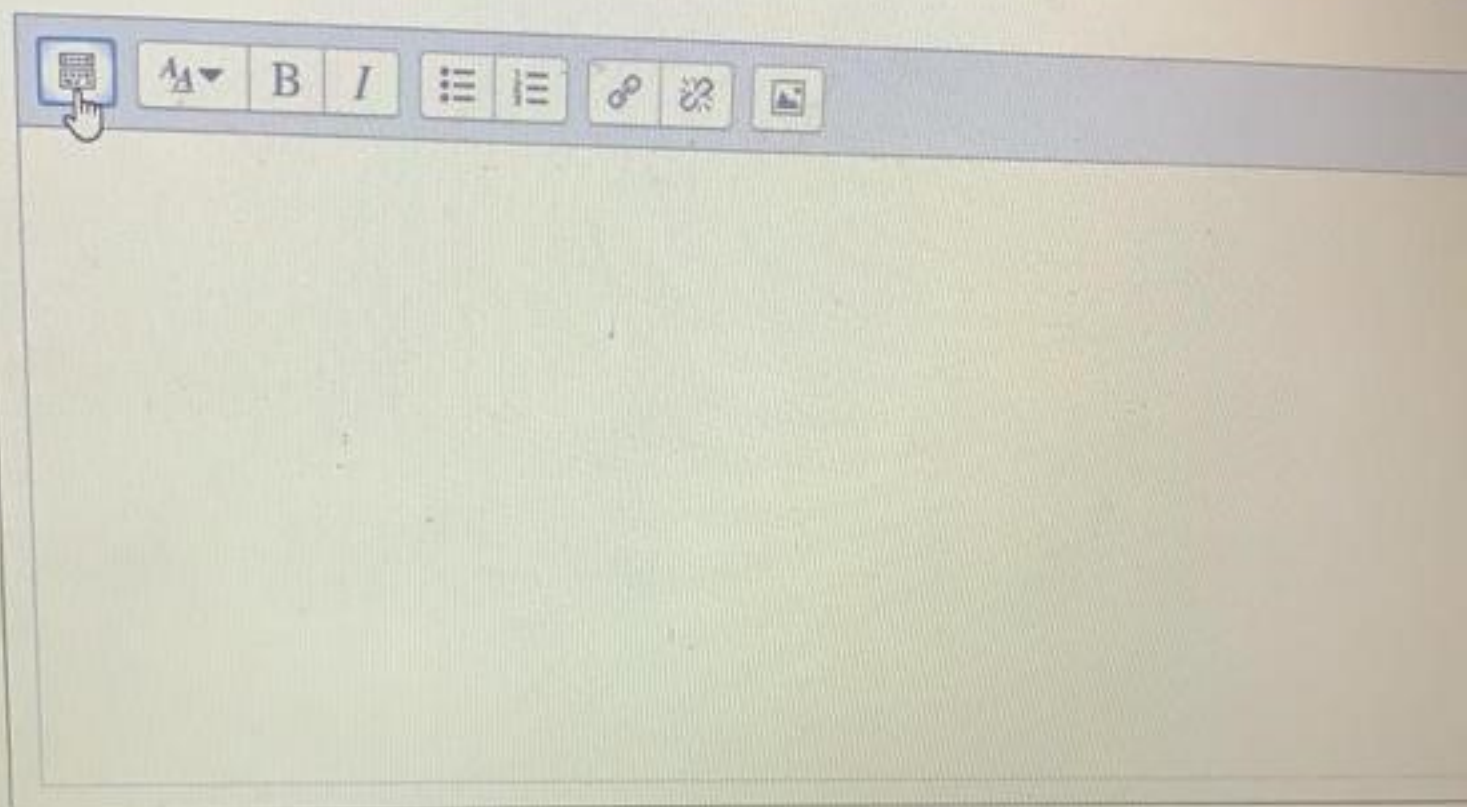


A company gives annual increments for their employees based on the following table.

Employee Category	increment %
A	4
B	6
C	8

increment amount = increment percentage * salary

Implement a function called `calIncrement()` which calculates the increment when the salary and the employee category are passed as the parameters.



9	for(int k=1;k<=6;k++)
10	for(int k=j;k<=6;k++)
11	if (j == k)
12	else

Output

```
*****
*****
*****
*****
*****
*****
*****
```



FULL HD 1080

acer

Esc

F1

F2

F3

F4

F5

F6

F7

F8

F9

~

!

@

#

\$

%

^

&

*

1

2

3

4

5

6

7

8



Question 1

Not yet answered

Marked out of 2.00

Flag question

Select the correct statement/s about assert statement

Select one or more:

- ☒ 1. assert is used to test a function
- ☒ 2. assert gives an error message
- ☒ 3. assert statement always writes at the beginning of a program
- ☐ 4. assert statements written only in the main program
- ☒ 5. assert can terminate a program

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Online Exams

Sri Lanka Institute of Information Technology

Question 7

Not yet answered

Marked out of
2.00

Flag question

A fashion store has 4 branches and asks 7 customers to rate their customer service in each branch. The rate values are:

1 - Very poor, 2 - Weak, 3 - Satisfactory, 4 - Good, 5 - Excellent

The fashion store expects to gather these details within 2D array that already created.

Select the suitable array/s to store these details.

Select one or more:

- ☐ 1. int service[6][3];
- ☒ 2. int service[7][4];
- ☒ 3. int service[4][7];
- ☐ 4. int service[5][7];
- ☐ 5. int service[7][5];

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Question 9

Not yet answered

Marked out of 2.00

Flag question

The C statement "if ((x == 1) || (y == 2)) {}" can be re-written as

Select one:

- ☐ 1. if (x = 1);
if (y = 2) {}
- ☐ 2. if (x == 1){}
else if (y == 2){}
- ☐ 3. if ((x = 1) || (y = 2)){}
- ☒ 4. if (x == 1)
if (y == 2){}
- ☐ 5. if (x == 1){}
if (y == 2){}

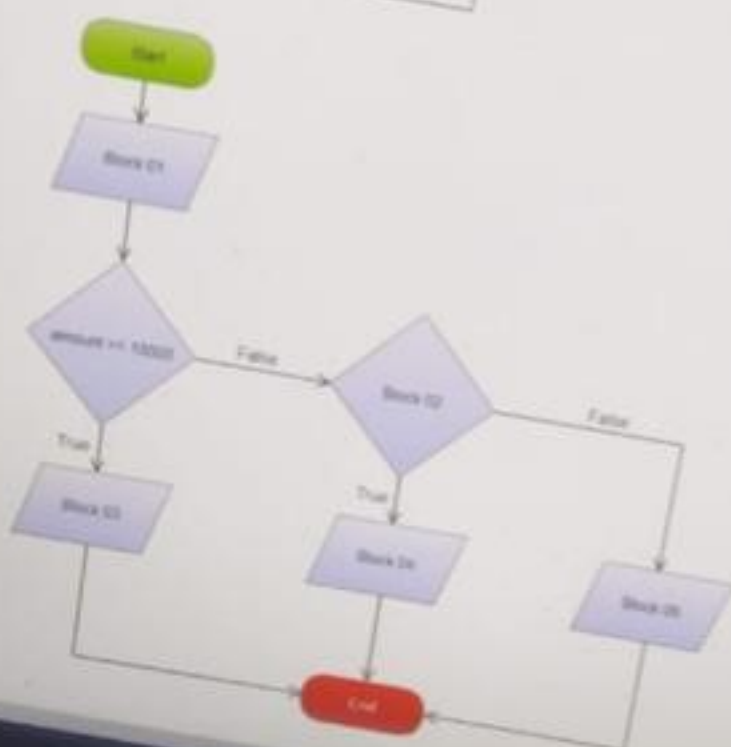
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acer



The following flowchart is drawn to decide the price given for a customer.
Write the relevant instructions (Block 1-5) in the given space.

Transaction amount	Price
More than 10000 or 10000	Sugar 1kg
Less than 10000 but more than 5000	Dhal 1kg
5000 or less	A soap





Online Exams

Sri Lanka Institute of Information Technology

Question
Not yet answered
Marked out of
5.00
Flag question

A bank is giving complements for their customers who open a new account on the new year day. The following flowchart is drawn to decide the prize given for a customer. Write the relevant instructions (Block 1 -5) in the given space.

Opening Balance	Prize
Less than 10000 or 10000	Umbrella
More than 10000 but less than 50000	Traveling bag
50000 or more	Rice cooker

Start

Block 1

Quiz

1

MOQ 13 MA

1

2

3

4

ESSAY 13 MA

11

12

16

18

20

ESSAY 13 MA

25

Consider the following table having two columns. First column has line numbers and the second has different programming statements and expressions. Write the line numbers of the relevant statements in correct order to obtain the following output.

No	Supportive components for program writing
1	{
2	}
3	for(int j=0;j<=6;j++)
4	printf("** ");
5	for(int j=1;j<=6;j++)
6	printf("\n ");
7	for(int j=0;j<=16;j++);
8	for(int j=1;j == 6;j++)
9	for(int k=1;k<=6;k++)
10	for(int k=j;k<=6;k++)
11	if (j == k)
12	else

Output

```
*****
*****
*****
*****
*****
*****
```

Quiz navigation



MCQ



ESSAY (5 MARKS EACH)



ESSAY (10 MARKS EACH)



FEEDBACK



Finish attempt

Time left 0:42:57

Online Exams

Sri Lanka Institute of Information Technology

Copy and modify the given program to apply the coding conventions.

A bank states their interest rate of savings accounts and fixed deposits for the balance amount of the bank account. If the bank account holder's age is considered as senior citizens.

Account Type		Interest Rate
Savings Account (S)	Current amount \leq 8000	4%
	Current amount $>$ 8000	8%
Fixed Deposits (F)	Current amount \leq 8000	10%
	Current amount $>$ 8000	15%

User inputs the account type, balance amount of the account and the age of the account holder. The program should calculate and display the corresponding interest amount. The program should take user inputs until the user enters an age less than 60. (Not a senior citizen).

```
#include <stdio.h>

int main()
{
    float balance, interestAmount;
    char type, answer;
    int age;
    printf("Enter age of the account holder : ");
    scanf("%d", &age);
```

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Answered
out of
Question

A shop maintains the item list in a text file called "item.dat". Complete the following C code to input the item details (item code , description , unit price, quantity) of 5 products from the keyboard and add new records to the existing file.

A sample of existing file is given below.

001 Sugar 135.00 150

002 Milk 345.00 55

003 Rice 98.00 200

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

```
int main(void)
```

```
{
```

```
.....
```

```
.....
```

```
.....
```

```
return 0;
```

```
}
```



≡ Quiz navigation



MCQ (2 MARKS EACH)



ESSAY (5 MARKS EACH)



ESSAY (10 MARKS EACH)



FEEDBACK



Complete the following c program to read a password from the key board and check whether it is a valid password. A password is considered as valid if it has more than 10 characters and if it has at least one upper case alphabetical character, one lower case alphabetical character, one numeric character and one of @,&,\$.

Characters	Equivalent ASCII
'A'	65
'Z'	90
'a'	97
'z'	122
'0'	48
'9'	57

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

```
int main(void)
```

```
{
```

```
.....
```

```
.....
```

```
.....
```

```
return 0;
```

```
}
```



1080

acer

Write two assert statements to test the following function.

```
int calculatePoints(float purchaseAmount)
{
    if(purchaseAmount >= 5000)
        return 500;
    else if(purchaseAmount >= 3000)
        return 200;
    else if(purchaseAmount >= 1000)
        return 100;
    else
        return 25;
}
```



Complete the following C code to reverse the data stored in an array. (use a loop)
starting array values

2	5	8	4	9
---	---	---	---	---

after reverse array values

9	4	8	5	2
---	---	---	---	---

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

```
int main(void)
```

```
{
```

```
    int num[5] = {2, 5, 8, 4, 9};
```

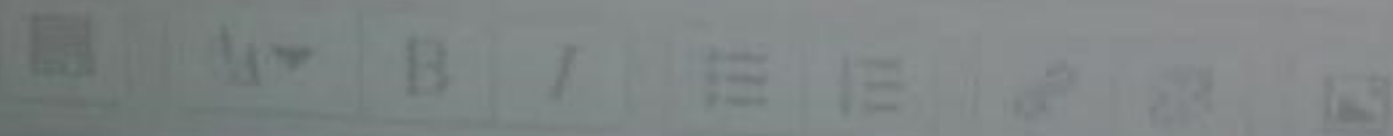
```
    //.....
```

```
    //.....
```

```
    //.....
```

```
    return 0;
```

```
}
```



Copy and modify the given program to apply the coding conventions.

A bank states their interest rate of savings accounts and fixed deposits for senior citizens. The interest rate depends on the balance amount of the bank account. If the bank account holder's age is greater than or equals to 60 years, they are considered as senior citizens.

Account Type	Interest Rate	
Savings Account (S)	Current amount \leq 8000	4%
	Current amount $>$ 8000	8%
Fixed Deposits (F)	Current amount \leq 8000	10%
	Current amount $>$ 8000	15%

User inputs the account type, balance amount of the account and the age of the account holder through the keyboard. The program should calculate and display the corresponding interest amount paid to the account holder. The program should take user inputs until the user enters an age less than 60. (Not a senior citizen)

```
#include <stdio.h>
int main()
{
    float balance, interestAmount;
    char type, answer;
    int age;
    printf("Enter age of the account holder : ");
    scanf("%d", &age);
    while(age >= 60)
    {
        printf("Enter account type : ");
```


Write two assert statements to test the following function.

```
int calculatePoints(float purchaseAmount)
{
    if(purchaseAmount >= 5000)
        return 500;
    else if(purchaseAmount >= 3000)
        return 200;
    else if(purchaseAmount >= 1000)
        return 100;
    else
        return 25;
}
```



Question 12

Not yet answered

Marked out of 1.00

Flag question

As student has written the following program to input the radius of a circle from the keyboard and calculate the display the area of the circle. However the program does not generate the required output. Identify four bugs in the following program and re-write the program with out errors.

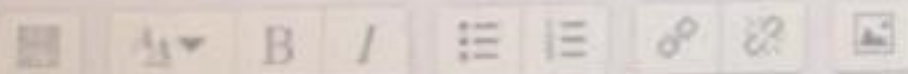
```
#include <stdio.h>
int main()
{
    float r, area;

    printf("Enter radius of a circle : ");
    scanf("%f\n", r);

    area = 22 / 7.0 * r * r;

    printf("Area = %.2d", &area);

    return 0;
}
```





Question 15

Not yet answered

Marked out of 5.00

Flag question

Consider the following table having two columns. First column has line numbers and the second has different programming statements and expressions. Write the line numbers of the relevant statements in correct order to obtain the following output.

No	Supportive components for program writing
1	{
2	}
3	for(int j=0;j<=6;j++)
4	printf("** ");
5	for(int j=1;j<=6;j++)
6	printf("\n ");
7	for(int j=0;j<=16;j++)
8	for(int j=1;j == 6;j++)
9	for(int k=1;k<=6;k++)
10	for(int k=j;k<=6;k++)
11	if (j == k)
12	else

Output

```
*****
*****
*****
****
***
**
*
```

Quiz navigation



MCQ (2 MARKS)

1

2

3

9

10

ESSAY (5 MARKS)

11

12

13

19

20

21

ESSAY (10 MARKS)

25

FEEDBACK

26

Finish attempt ...

Time left 0:43:22

16

answered

out of

question



Assuming that the following C functions are implemented, write the main program to calculate the floor area of the above plan excluding garden areas.

calculate the area of a rectangle

float area, float length, float width

Quiz navigation



MOQ 12 MARKS 12 AC

1 2 3 4

5 6 7 8 9 10

11 12 13 14

15 16 17 18 19 20

21 22 23 24 25

26 27 28 29 30

31 32 33 34 35

36 37 38 39 40

41 42 43 44 45

46 47 48 49 50

51 52 53 54 55

56 57 58 59 60

61 62 63 64 65



Complete the following C program to solve the given expression. Use Standard C math library function.

$$C = \sqrt{a^2 + b^2 - 2ab \cos \theta}$$

Hint : if angle is 90 degrees, cosine will be $\cos(90 * 3.141592/180)$

```
#include <stdio.h>
#include <math.h>
int main()
{
    float a = 3, b = 4, c;
    float angle = 90 * 3.141592/180;

    _____

    _____

    return 0;
}
```