

Brett Thomas - 1809918

by Brett Thomas

FILE	11941_BRETT_THOMAS_BRETT_THOMAS_- _1809918_182843_678755424.TXT (5.08K)		
TIME SUBMITTED	15-MAY-2019 03:52PM (UTC+0100)	WORD COUNT	620
SUBMISSION ID	107310025	CHARACTER COUNT	3828

```
//Brett Thomas - 1809918
```

```
//Exercise 2B - paste code below
```

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

```
#define PI 3.142 //define constant value
```

```
float areaofcircle(void);    //prototype
```

```
float areaofrectangle(void);  //prototype
```

```
void invalidinput(void);     //prototype
```

```
void main()
```

```
{
```

```
    float circlearea,rectanglearea;    //declare float variable
```

```
    int userchoice;    //variable
```

```
    printf("Welcome to the program\n"); //welcome narative
```

```
    printf("Please select from one of the following options and press enter: \n");
```

```
    //menu title
```

```
    printf("1 - Calculate the area of a rectangle \n");    //option 1
```

```
    printf("2 - Calculate the area of a circle \n");    //option 2
```

```
printf("3 - Exit \n");    //option 3
scanf("%d",&userchoice);    //store users choice
```

```
while (userchoice==1)
{
    rectanglearea=areaofrectangle();
    printf("\nThank you, the area of the rectangle is %0.2f\n\n",rectanglearea); //return
```

value from variable

```
    printf("Please select from one of the following options and press enter: \n");
//menu title
```

```
    printf("1 - Calculate the area of a rectangle \n");    //option 1
    printf("2 - Calculate the area of a circle \n");    //option 2
    printf("3 - Exit \n");    //option 3
    scanf("%d",&userchoice);    //store users choice
}
```

```
while (userchoice==2)
{
    circlearea=areaofcircle();
    printf("\nThank you, the area of the circle is %0.2f\n\n",circlearea); //return value
```

from variable

```
    printf("Please select from one of the following options and press enter: \n");
//menu title
```

```

    printf("1 - Calculate the area of a rectangle \n");    //option 1
    printf("2 - Calculate the area of a circle \n");    //option 2
    printf("3 - Exit \n");    //option 3
    scanf("%d",&userchoice);    //store users choice
}
if (userchoice==3)
{
    printf("Thankyou and goodbye");
}
else //catchall for invalid input
{
    printf("Please select from one of the following options only and press enter: \n");
//menu title
    printf("1 - Calculate the area of a rectangle \n");    //option 1
    printf("2 - Calculate the area of a circle \n");    //option 2
    printf("3 - Exit \n");    //option 3
    scanf("%d",&userchoice);    //store users choice
}

}

float areaofrectangle(void)    //function to work out area of rectangle

```

```
{  
    float lengthofrectangle,widthofrectangle,areaofrectangle;    //declare float variables  
  
    printf("Enter the length of the rectangle: "); //ask for the length of the rectangle  
    scanf(" %f", &lengthofrectangle);    //store the input  
    while (lengthofrectangle <=0)  
    {  
        printf("\nThank you, %0.2f is not a valid size, the rectangle length must be a  
positive number - please enter again: : ",lengthofrectangle); //return value from variable  
        scanf("%f",&lengthofrectangle);    //read the value inputted by the user and store  
in the variable  
    }  
    printf("Enter the width of the rectangle: ");    //ask for the width of the rectangle  
    scanf("%f", &widthofrectangle);    //store the width of the rectangle  
  
    while (widthofrectangle <=0)  
    {  
        printf("\nThank you, %0.2f is not a valid size, the rectangle width must be a  
positive number - please enter again: ",widthofrectangle); //return value from variable  
        scanf("%f",&widthofrectangle);    //read the value inputted by the user and store  
in the variable  
    }  
}
```

```

        areaofrectangle=(lengthofrectangle*widthofrectangle);    //work out the area of the
rectangle

    return areaofrectangle;    //send value back to main function
}

```

```

float areaofcircle()    //function to work out the area of the circle
{
    float circleradius,areaofcircle;    //declare float variable
    printf("Enter the radius of the circle: "); //ask for radius
    scanf(" %f",&circleradius);    //store the radius
    while (circleradius <=0)
    {
        printf("\nThank you, %0.2f is not a valid radius, please enter again: ",circleradius);
//return value from variable

        scanf("%f",&circleradius);    //read the value inputted by the user and store in
the variable
    }

    areaofcircle=(PI*(circleradius*circleradius)); //work out area
    return areaofcircle;    //send value back to main function
}

```

//Exercise 3B - paste code below

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

```
void main()
```

```
{
```

```
    int YT,YB,XL,XR;
```

```
    float width;
```

```
    int xpoint;
```

```
    int ypoint;
```

```
    printf("Please provide the YT (top left) position of the square: ");
```

```
    scanf("%d", &YT);
```

```
    printf("Please provide the width of the square: ");
```

```
    scanf("%f", &width);
```

```
    YB=YT-width;
```

```
    XL=YB;
```

```
    XR=XL+width;
```

```
    printf("*****Point Check*****\n");
```

```
    printf("Please provide the point on X you wish to check: ");
```

```
    scanf("%d", &xpoint);
```

```
    printf("\nPlease provide the point on y you wish to check: ");
```

```
scanf("%d", &ypoint);
```

```
if ((ypoint<=YT && ypoint>=YB) && (xpoint<=XR && xpoint>=XL))
```

```
{
```

```
    printf("\nThe point is in the square!\n");
```

```
}
```

```
else
```

```
{
```

```
    printf("\nThe point is not in the square!\n");
```

```
}
```

```
}
```

FINAL GRADE

/100

GENERAL COMMENTS

Instructor

Exercise 1a (4): 3

Exercise 1b (8): 5

Exercise 1c (8): 6

Exercise 2a (20): 15

Exercise 2b (30): 15

Exercise 3a (20): 16

Exercise 3b (10): 10

See comments in code. You should provide more comments in your code.

while loops used in an incorrect manner.

70/100

Assignment 1 (Gareth's): 66%

Overall mark for module: 68%

PAGE 1

PAGE 2



Comment 1

Should be in a separate function.



Comment 2

Should be

```
if()
```

```
{
```

```
}
```

```
else if()
```

```
{
```

```
}
```

```
else
```

```
{
```

```
}
```

OR even better use a *switch* statement

PAGE 3



Comment 3

Should be in a separate function.

PAGE 4

PAGE 5

PAGE 6

PAGE 7
