QAP 2 – May 23 – 31, 2023

- **Projects 1 and 3 will be completed individually. Projects 2 is to be completed in your Study Groups. Divide Project 2 equally between members but save and submit as a single file.**

- **All projects are due by Wednesday, May 31. Attach all projects to the Assignment page in Teams for submission. Project 2 only need to be submitted by only member of the group.**

- **I will allow questions at the beginning of each class during normal lectures next week for any issues that may arise.**

Project 1 – Python Program – Formatting and IF Statements

The St. John's Marina & Yacht Club is tired of all the paper it keeps tracking who has their yachts docked at the club, how much to charge them each month, and if the members have paid their bill. They decided the need to start with a program to allow them to enter the appropriate information and prepare a receipt. The club would like the receptionist to be able to enter existing club members, and add new members as they are accepted, since not all sites are in use. There are 100 sites at the marina.

Input for the program will include the Site number (1-100), the member name, street address, city, province and postal code, phone number, and cell number, the membership type (S for Standard, E for Executive), and an value for each of the following options: the number of alternate members (family and friends who will be allowed access to the grounds), weekly site cleaning (Y for Yes, N for No), and video surveillance (Y for Yes, N for No).

The program should perform the following calculations. Even numbered sites cost $80.00 per month, and odd numbered sites cost $120.00 since they are larger. Each alternate member costs $5.00 per month. Add these two numbers to get the site charges.

If the member chooses, weekly site cleaning the charge is $50.00 per month, and video surveillance is $35.00 per month. Add these together to determine the extra charges.

The subtotal is the site charge plus the extra charges. Taxes are calculated at 15% on all charges, and the total monthly charge is the site charges plus the extra charges plus the taxes. Finally monthly dues are calculated at $75.00 for standard members and $150.00 for executive members. The total monthly charge and the monthly dues are added together to give the Total Monthly Fees.

Also determine the total Yearly Fees by multiplying the total monthly fees by 12. The monthly payment is the Total yearly fees, plus a processing fee of $59.99 divided by 12. Finally, a cancellation fee, if the client leaves the marina without proper notice, as 60% of the yearly site charges.

St. John's Marina & Yacht Club
Yearly Member Receipt

Client Name and Address:

XXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXX, XX XXXXXX

Phone: XXXXXXXXXX (H)
XXXXXXXXXX (C)

Site #: ### Member type: XXXXXXXXX

Alternate members:	##
Weekly site cleaning:	XXX
Video surveillance:	XXX
Site charges:	$#,###.##
Extra charges:	$###.##
Subtotal:	$#,###.##
Sales tax (HST):	$###.##
Total monthly charges:	$#,###.##
Monthly dues:	$###.##
Total monthly fees:	$#,###.##
Total yearly fees:	$##,###.##
Monthly payment:	$#,###.##

Issued: YYYY-MM-DD
HST Reg No: 549-33-5849-4720-9885

Cancellation fee: $#,###.##

Display all calculated values to the screen based on the invoice displayed on the right. The membership type will be displayed as Standard or Executive. The weekly site cleaning and video surveillance will be displayed as Yes or No. The date can be printed as a literal for this exercise – we will see how to handle dates later.

Project 2 – Math – Complete the following. Scan to a single pdf.

1. Simplify using BEDMAS $9 + (12 \div 6)^2 + (2 \times -9) - 5$

2. Simplify using BEDMAS $\frac{28+7}{-7(5-6)^2}$ - 1

3. Simplify using BEDMAS $((4 + 3) \times 4) - 5 + ((7 - 4)^2 / 3) + 1$

4. Calculate each: $38.63 + 14.2 =$ $230 \times 2.465 =$ $13.2 / 4.8 =$

5. Solve for the subject in (): $Y = mx + c$ (m)

6. Solve for the subject in (): $\frac{y}{P} + a = b$ (P)

7. Solve for the subject in (): $2(x + 3) - 3(y + 2) = 4xy$ (x)

8. Solve for the subject in (): $S = uf + \frac{1}{2} at^2$ (t)

9. A student worked 3.5 hours on Friday evening, 5 hours on Saturday and 6.5 hours on Sunday. How much will they earn if they are paid $12.50 per hour?

10. George purchased 5.5 yards of brown upholstery material, and 7.75 yards of maroon material. If he used 3.25 yards on a project, how much material does he have left?

11. The Miller family estimate that they spend $475 a month on food. This amount represents 12% of their total budget. What is the amount of their total budget?

12. The renovation budget for the front of a house is $18,000.00. If you spend 9% on shrubs and flowers, how much of the budget is used?

13. A store clerk sold a pair of skies to a customer. The skies had a retail price of $219.95. The clerk made up a sales slip that included 15% HST. What is the final amount paid?

14. Bacteria in a water sample increased from 2.6 ppm (parts per million) to 2.9 ppm. What is the percent increase in bacteria?

15. Your company has a large container of fuel. You have used 320 gallons of the 1600 total gallons. What percentage of the fuel remains?

16. A company offers a safety harness for $345.00 (HST included). What is the actual cost of the harness, and what is the cost of the tax (15%)?

17. If the price of a tester decreased from $60 to $36, What is the percent decrease in the cost?

18. A camera is on sale for 25% off at a price of $224.96. What was the original price of the camera rounded to the nearest .95? What will the customer pay in total with HST of 15%?

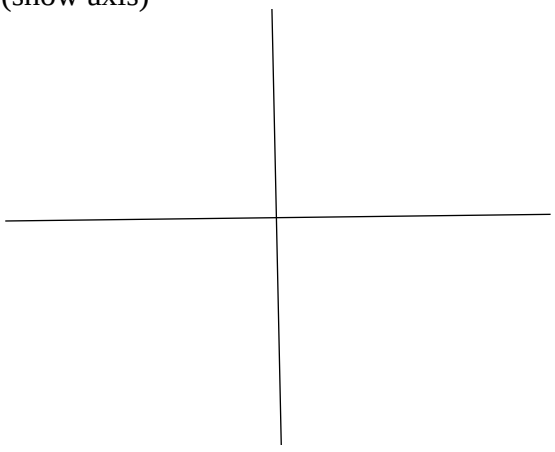
19. Graph each of the following functions. Use a table like the one provided.

- $y = 3x - 9$
- $5x + 2y = 12$
- $y = -.5x^2 - 3x + 5$
- $y = \sqrt{(3x - 4)} - 2$

Domain and Range

x	y

Graph (show axis)



20. In class we discussed the Math module that is available in Python using import Math. Discuss 4-5 functions of this module which you feel are the most useful. Include the function name, a brief description of the function, and an example of how it can be used.

Project 3 – Web Design – Images, Links and CSS

1. Make any corrections to your first assignment. Include any tags that were omitted and correct any spelling / grammatical errors noted.

2. Add semantic tags for the header, nav, main, and footer. There is also a semantic tag called Section can it used to separate the main part of the page into sections. Set up sections for each of the 4 sections on the page.

3. Add a style sheet for the page – assign an appropriate background color for the body and create a box with a width of 1000px and a border – the background color of the box will be white. Set up styles for headings, text, lists, etc. Also include at least 3 classes and assign the classes to a word / words/ or phrase within the page – make them obvious. Add a class for one of the sections and apply it to the tag for that section. Make sure that all the colors used complement each other.

4. Add the following navigation to the top of the page after the main heading. Also include at least 3 links in the body of your page – find a site and include it – make sure these appear on a new tab. Finally include a Top of Page link at the end of your document.

HOME :: FULL HISTORY :: COMPUTER SYSTEMS :: PARTNERS :: ABOUT

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5. Place a picture after the first paragraph – above the second heading – this picture will be at least 600px wide and centered across the page.

   Add two pictures within the text – one in the Great Computer Quotes section (aligned left) and one in the section you added (aligned right).

   In the Other Memorable Events section, around the middle of the list, add a row of pictures based on the information presented. Include at least 4-5 images with consistent spacing centered across the page.

6. Add a new feature to css not yet covered in class. Apply it somewhere to the document. Explain the feature you used in a paragraph at the end of the document after the last <hr>.